Missouri's Pandemic Influenza Response Plan

Missouri Department of Health and Senior Services
Emergency Response Plan

December 2011

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Introduction

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The Missouri Department of Health and Senior Services (DHSS) previously published a pandemic preparedness plan in 2008. Since 2008, the world has experienced a pandemic due to a novel 2009 H1N1influenza virus (pH1N1). On August, 10, 2010, the World Health Organization (WHO) announced that the H1N1 virus pandemic that lasted 14 months and affected 212 countries and territories was over. Significant practical experience has been gained in Missouri from responding to the H1N1 pandemic. There is greater understanding that pandemic preparedness requires involvement of not only the public health and the health care sector, but the whole of society. In light of the recent pandemic and experience gained, DHSS decided to update its plan to enable relevant agencies and the public to be better prepared for the next pandemic.

Preparing for, responding to and recovering from pandemic influenza will require a strategy with many similarities to other disease outbreaks, be they naturally occurring or resulting from terrorist action. The time-honored public health activities to lessen the impact on morbidity and mortality such as education, vaccination, prophylaxis, isolation/quarantine and the closure of public facilities are common to all, despite the particular disease of concern. In addition, clear, concise communication with the public, within DHSS, and with other agencies remains a critical component, as does the ability of the involved agencies to achieve collaboration and coordination. By its very nature, an influenza pandemic, once started, will not be stopped until it has run its course. This course can be shortened and weakened by many things, with vaccination being the gold standard for protecting the population. This plan, therefore, is not intended to describe the processes for stopping a pandemic, but rather to describe strategies of preparedness, response and recovery to attempt to decrease illnesses and deaths during the pandemic period to manageable levels (i.e., that do not overwhelm the critical infrastructures of the state), and to promote community resiliency and rapid recovery.

DHSS has emergency response plans in place, internally, and as part of the state response through the Missouri State Emergency Operations Plan (SEOP) that have been tried, tested and exercised for all aspects of response and recovery, including those mentioned above relating to disease surveillance, investigation and control. Where necessary, details or public information templates unique to pandemic influenza have been added into plans. This plan gives background information related to pandemic influenza, outlines the DHSS concept of operations for response, lists primary and support functional areas and provides technical support annexes outlining the available resources (i.e., “tools”) available to temper the pandemic and promote community resiliency and recovery. A broad, diverse and geographically dispersed group of agencies and organizations, representing the length, breadth and interests of the state collaborated with DHSS in completing the annexes of this plan. With committees organized under the umbrella of the Missouri Homeland Security Council, over four hundred representatives from hospitals, livestock corporations, local public health agencies (LPHAs), other state agencies, funeral homes, laboratories, financial institutions, fire departments, local and state governments, school boards, utility companies, universities, nursing homes and coroner’s offices, among others, engaged with DHSS providing input and expertise to produce a meaningful plan.

DHSS has primary responsibility to safeguard the health of the people of the state and all its subdivisions and will respond in the event of pandemic influenza to attempt to limit the impact on public health by reducing morbidity and mortality. These actions may also limit the impact on the social and economic infrastructure of the state. DHSS will serve to support the LPHAs in this effort, and lead the state-level response of a coordinated multitude of federal, state and private organizations and agencies. DHSS reserves the flexibility to modify the plan during the pandemic in response to the actual behavior of the disease and the effectiveness of the ongoing response. Lessons learned from previous waves will be incorporated going forward and modifications in planning may be made across all sectors to meet the key goals in public health and critical infrastructure support. Such changes will be rapidly and effectively communicated from DHSS to all partnered agencies and organizations per the communications plan to ensure best practices are consistently implemented statewide.

The following pages outline the concept of operations that DHSS and coordinated agencies and organizations will employ during pandemic response.

For an organizational chart of the Missouri Department of Health and Senior Services and description of divisions see: http://health.mo.gov/about/index.php.

Purpose of the Plan and the Guiding Principles

The purpose of the DHSS pandemic influenza plan is to assist public health officials and health care providers in preparing for and responding rapidly and effectively to an influenza pandemic. The current plan has been updated in accordance with the federal guidance documents issued since 2006 and most recently after the novel H1N1 pandemic.

This plan is designed primarily to guide the operational response of the state response to pandemic influenza in Missouri, though segments of information contained within the plan will prove useful to guide activities of planners at the local level and to the general public. The plan is intended to provide the processes and informational resources for an effective response of DHSS to pandemic influenza. An effective response will reduce the impact on public health (i.e., reduce illness and save lives) and maintain essential services while minimizing economic loss.

The plan outlines general responsibilities for functional components and describes the concept of operations. The plan is intended to be further supplemented by other more detailed plans and guidance relative to the functional components, much of which is found in the technical support annexes, and can be deviated from as needed if better evidence and direction becomes apparent. This plan for pandemic influenza response integrates with the current DHSS Emergency Response Plan and the SEOP which would direct these activities into National Incident Management System (NIMS) compliant Incident Command System (ICS) as needed and as further described in the "Concept of Operations" section.

Guiding Principles

DHSS will be guided by the following principles in initiating and directing its response activities:

1) DHSS will follow the guidance and direction of the U.S. Department of Health and Human Services (HHS) Pandemic Influenza Response Plan
2) DHSS will follow the concepts and principles of the National Response Plan and the National Incident Management System (NIMS) in planning and response.
3) DHSS will work to build a flexible response system determined, in addition to the above, by the epidemiological features of the virus and the course of the pandemic.
4) DHSS will provide honest, accurate and timely information to the public.
5) In advance of an influenza pandemic, DHSS will work with federal, state and local government partners, and the private sector to coordinate pandemic influenza preparedness activities to achieve interoperable response capabilities.
6) In advance of an influenza pandemic, DHSS will encourage all Missourians to be active partners in preparing local communities, workplaces and homes for pandemic influenza and will emphasize that a pandemic will require Missourians to make difficult choices.
7) DHSS will strive to ensure that preparations made for an influenza pandemic will benefit overall preparedness for any public health emergency or disease outbreak and serve to build capability and capacity to protect the health of all Missourians.
8) In advance of an influenza pandemic, DHSS, in concert with federal and local partners, will work to achieve statewide reliable, efficient and rapid distribution mechanisms for vaccine and antiviral drugs through the Strategic National Stockpile (SNS) and local stockpiles.

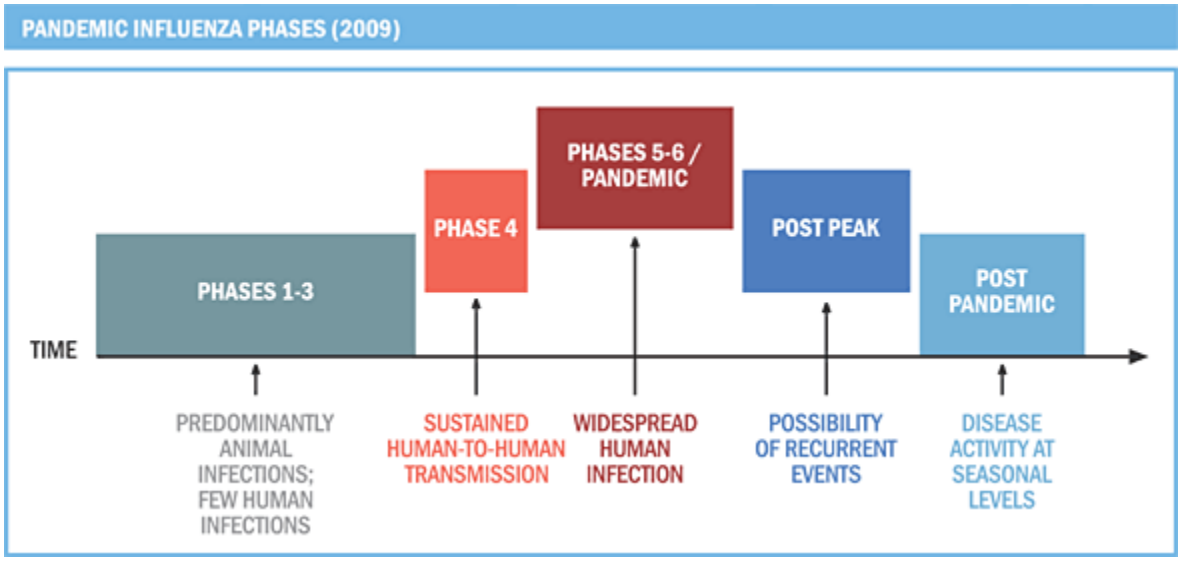
9) DHSS will work with the federal government to procure virus vaccine and distribute it to LPHAs for pre-determined priority groups, based on pre-approved local plans, or as the epidemiology of the pandemic dictates.
10) DHSS, in collaboration with federal and local partners, will begin to distribute and deliver antiviral drugs from public stockpiles to health care facilities and others with direct patient care responsibility for treatment of the ill from the novel influenza virus.

Pandemic Phases and Stages

A **pandemic** is a global disease outbreak. **A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity and for which there is no vaccine**. The disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time. In all previous pandemics, the outbreak spread throughout the world within a year of its initial detection. With the increase in global transport, as well as urbanization and overcrowded conditions in some areas, epidemics due to a new influenza virus are likely to take hold around the world, and become a pandemic faster than before. The spread of the 2009 pandemic (H1N1) was very rapid due to the high mobility and interconnectedness of modern societies. Within six weeks of first being described, it had affected all six WHO regions resulting in the declaration of a pandemic. Pandemics can be either mild or severe in the illness and death they cause, and the severity of a pandemic can change over the course of that pandemic.

A new flu virus, which eventually became known as pandemic H1N1 (**pH1N1**), came to the world's attention in March 2009. By April, 2009, initial experience with the unfolding pandemic prompted WHO to redefine their phase descriptions for an influenza pandemic (Figure 1.). The revisions were intended to make phases easier to understand, more precise, and based upon observable phenomena. On June 11, 2009, the WHO raised the H1N1 virus to Phase 6 - which meant that pandemic was underway.

Figure 1.



In the 2009 revision of the phase descriptions, WHO has retained the use of a six-phased approach for easy incorporation of new recommendations and approaches into existing national preparedness and response plans. Phases 1–3 correlate with preparedness in the **pre-pandemic** interval, including capacity development and response planning activities, while Phases 4–6 clearly signal the need for response and mitigation efforts during the **pandemic** interval. For

example, according to the 2009 WHO phases, avian flu H5N1 stands currently at Phase 3 (it has infected people in small clusters with limited human-to-human transmission); whereas, 2009 H1N1 pandemic has moved to post-pandemic phase.

Pre-Pandemic Interval

In nature, influenza viruses circulate continuously among animals, especially birds. Even though such viruses might theoretically develop into pandemic viruses, in **Phase 1** no viruses circulating among animals have been reported to cause infections in humans.

In **Phase 2** an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans, and is therefore considered a potential pandemic threat.

In **Phase 3**, an animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks. Limited human-to-human transmission may occur under some circumstances, for example, when there is close contact between an infected person and an unprotected caregiver. However, limited transmission under such restricted circumstances does not indicate that the virus has gained the level of transmissibility among humans necessary to cause a pandemic.

Pandemic Interval

Phase 4 is characterized by verified human-to-human transmission of an animal or human-animal influenza reassortant virus able to cause "community-level outbreaks". The ability to cause sustained disease outbreaks in a community marks a significant upwards shift in the risk for a pandemic. Any country that suspects or has verified such an event should urgently consult with WHO so that the situation can be jointly assessed and a decision made by the affected country if implementation of a rapid pandemic containment operation is warranted. Phase 4 indicates a significant increase in risk of a pandemic but does not necessarily mean that a pandemic is a forgone conclusion.

Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

Phase 6, the pandemic phase, is characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in **Phase 5**. Designation of this phase will indicate that a global pandemic is under way.

During the **post-peak period**, pandemic disease levels in most countries with adequate surveillance will have dropped below peak observed levels. The post-peak period signifies that pandemic activity appears to be decreasing; however, it is uncertain if additional waves will occur and countries will need to be prepared for a second wave.

Previous pandemics have been characterized by waves of activity spread over months. Once the level of disease activity drops, a critical communications task will be to balance this information with the possibility of another wave because pandemic waves can be separated by months.

In the **Post-Pandemic period**, influenza disease activity will have returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. At this stage, it is important to maintain surveillance and update pandemic preparedness and response plans accordingly. An intensive phase of recovery and evaluation may be required.

Seasonal influenza

Influenza is an acute respiratory disease caused by influenza type A or B viruses. The typical features of seasonal influenza include abrupt onset of fever and respiratory symptoms such as cough, sore throat and coryza, as well as headache, muscle ache and fatigue. For seasonal influenza, the incubation period ranges from 1 to 4 days. The clinical severity of infection can range from asymptomatic infection to primary viral pneumonia and death. The symptoms of pandemic (H1N1) 2009 influenza in people were similar to those of seasonal influenza. Illness in most cases was mild but there were cases of severe disease requiring hospitalization and a number of deaths.

Yearly seasonal influenza remains a significant disease in the United States and Missouri and seasonal epidemics can result in high morbidity and mortality, as well as create strains on the health care system and in communities. If a severe seasonal epidemic should occur, parts of the pandemic flu plan, if needed, would be implemented to minimize the outbreak. The parts implemented would depend upon the specifics of the outbreak and would be determined in consultation with The Centers for Disease Control and Prevention (CDC), DHSS experts, LPHAs and state elected officials.

Avian Influenza

Unlike influenza viruses that have achieved ongoing transmission in humans, the sporadic human infections with avian A (H5N1) viruses are far more severe with high mortality. Initial symptoms include a high fever and other influenza-like symptoms. Diarrhea, vomiting, abdominal pain, chest pain, and bleeding from the nose and gums have also been reported. Watery diarrhea without blood appears to be more common in H5N1 influenza than in normal seasonal influenza. The disease often manifests as a rapid progression of pneumonia with respiratory failure ensuing over several days. It also appears that the incubation period in humans may be longer for avian (H5N1) viruses, ranging from 2 to 8 days, and possibly as long as 17 days.

Pandemic H1N1 Experience

The 2009 H1N1 pandemic in USA resulted in approximately 43 million to 89 million cases, 195,000 to 403,000 hospitalizations, and 8,900 to 18,300 deaths, including 910 to 1,880 deaths among children.

The pH1N1 influenza virus contained a combination of gene segments that had not been previously reported in animals or humans. The early serologic data suggested that many older adults had some cross-reactive immunity to the pH1N1 due to prior infection with antigenically related strains, while children and most young adults were immunologically naive.

In the United States, the pandemic was characterized by two distinct waves: first, April through July 2009, and the second, from August 2009 to February 2010. Within 1 week of the recognition of the nation's first case, 10 cases had been confirmed in 3 states signaling onset of a first wave. Consistent with early serological data, the majority of reported cases were in people <= 24 years of age, and only 1 % of cases were in individuals >=65 years of age.
The signs and symptoms reported among the pH1N1 cases were similar to those observed in patients with seasonal influenza, with the exception of diarrhea which was more common in pandemic patients. Unlike seasonal influenza when hospitalizations are more common among persons over 65 years of age, the majority (>70%) of pH1N1 hospitalizations were in people younger than 50 years of age, with hospitalization rates highest in 0-4 year-old group. The majority of adults and children hospitalized with pH1N1 infections had at least 1 underlying medical condition, and 20-25% of all hospitalized people required ICU admission.

The age distribution of laboratory-confirmed pH1N1 influenza–associated death rate was also markedly different from that seen in typical influenza seasons. In contrast to typical influenza seasons, when 90% of deaths occur in the elderly population, over 80% of reported pH1N1 deaths were in persons younger than 65 years of age. Reported pediatric deaths from the pH1N1 were almost 4 times higher compared to death rate during the seasonal influenza. Pregnant women were more than 4 times more likely to be hospitalized with pH1N1; estimated 5.8% of all deaths from pH1N1 were in pregnant women even though they comprise only 1% of the total population.

Epidemiological studies indicated that the virus was at the low end of transmissibility, compared with the strains that caused the 1918 pandemic, and was comparable to or slightly less transmissible than the strains that caused the 1957 and 1968 pandemics. On average, there were 1.5 secondary cases per one person with pH1N1.

The CDC estimated that, from April 2009 through March 2010, pH1N1 virus was associated with about 60 million cases, 270,000 hospitalizations, and 12,270 deaths in the USA. This estimate represents a cumulative pH1N1 attack rate in the United States of approximately 20%.

In conclusion, the H1N1 pandemic experience showed that disease estimates were substantially lower than envisioned in the pandemic preparedness planning assumptions. Although the overall health impact was less than predicted in the elderly population, the impact of pH1N1virus infection in children, young adults, and pregnant women was substantial.

Assumptions in Planning

Innate variability of influenza viruses and diverse features of the previous pandemics make pandemic planning assumptions destined to some degree of uncertainty. As pH1N1 experience showed, some assumptions made in the pre-pandemic planning, such as expected epidemiology of the pandemic virus, disease burden, and the vaccine development process, turned out not to be relevant to the pH1N1. The assumptions in the current plan are based on the synthesis of the previous and most recent pandemic experiences. The plan does not make predictions; rather, it reflects historical circumstances and current developments. These assumptions are necessary for scaling the plan to some workable format. However, adjustments may be made within the response if some of the assumptions prove to be false or otherwise inadequate.

Assumptions

- New pandemic strain could emerge anywhere, including Missouri.
- If the pandemic starts outside the U.S., the first U.S. cases are likely to occur within four weeks or less following recognition, assuming no effective intervention took place.
- Pandemic virus could be introduced to Missouri from a variety of sources.
- A new pandemic will be due to a new subtype of influenza A.
- The virulence and infectivity of a pandemic virus likely to be uncertain in initial stages.
- The incubation period of the pandemic infection likely to be about 2 days, or more.
- The pandemic can start during any season of the year.
- Enhanced Public Health measures likely to delay the appearance of a statewide epidemic by several weeks and reduce the overall rate of morbidity and mortality.
- More than one wave of pandemic lasting from weeks to months are likely to occur across the country.
- Population's susceptibility will depend on the origin of the pandemic virus, but likely to be universal.
- Up to 30% of the general population could become ill with influenza, of which 60% will seek outpatient medical care.
- The proportion of ill people who die (case-fatality rate, CFR) may be up to 2%, or higher. According to one estimate, the CFR among people with symptomatic pH1N1 infection was about 0.05%.
- Some infected people will not have apparent symptoms but will develop immunity to subsequent infection; they will be able to transmit infection to others but at rates probably lower than those for people with full symptoms.
- Illness rates will be highest among children.
- Highest risk groups for severe and fatal infection are likely to include infants, the elderly, pregnant women, and people with chronic medical conditions.
- In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40% during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak.
- Community mitigation strategies, if implemented effectively, will reduce the infection attack rate.
- People who become ill will shed the virus and transmit infection briefly before the apparent onset of illness. Viral shedding and the risk of transmission will be greatest

during the height of clinical symptoms. Children typically shed the greatest amount of virus and therefore, are likely to pose the greatest risk for disease transmission.

- Infection likely to spread primarily by respiratory droplets, by hand-to-face contact with contaminated surfaces, and possibly with some generated aerosols.
- An infected person will transmit infection to approximately 1.3 to 2 other people during the initial period before sufficient immunity develops in the community.
- Increased public anxiety will cause increased psychogenic and stress-related illness.
- The initial responsibility for a pandemic response rests with state and local authorities.
- State, interstate, and federal assistance and resource support to communities will be limited or unavailable.
- A pandemic will increase the demand for public services.
- Social and economic disruption may limit Public Health's ability to provide services.
- Public health services will be reduced to those services determined to be life-saving, mission-essential, or life-sustaining.
  - Initially, the antiviral drug availability will be limited to what has been stockpiled before the pandemic.
  - Missouri will receive additional pro rata treatment courses of antiviral medications from the Strategic National Stockpile (SNS). These antiviral medications will be designated for treatment of the sick based on the priority groups established by the Federal Guidelines.
    - When the pandemic occurs, vaccine will not be available, or will be in short supply and will be allocated on a priority basis following federal guidelines from HHS.
    - Vaccine for pandemic influenza will be available approximately four to six months after the pandemic begins. Once the vaccine is produced, it will be available incrementally, based on U.S. production capability.
    - People identified for vaccination may need more than one dose of vaccine to achieve necessary antibody response.

Assumptions Concerning Response to a Pandemic

Pandemic Planning Guidance

The pandemic severity and measures of response needed will most likely be different in each and every political subdivision in the state. Local jurisdictions will lead the response and implement measures as needed to minimize morbidity and mortality and maintain critical infrastructure services. DHSS will support this local response through established emergency protocols and systems. The following planning guidance outlines anticipated degrees of impact and response needed per level of pandemic severity based on historical evidence and modeling, but should in no way be construed as predictive of what will actually occur during a pandemic. Local jurisdictions should consider regional planning to assure a uniform response. Based on the pH1N1 experience, different local jurisdictions handled the distribution of vaccine differently. This caused confusion for citizens, especially those who lived in one jurisdiction, worked in another jurisdiction, and received health care in a third jurisdiction. The differing strategies for distribution lead to frustration for the citizens and also harmed credibility of the public health system.

(NOTE: The planning assumptions outlined below are for planning and informational purposes only as response activities will be dictated by on the ground information and decisions on the level of response needed by DHSS will be made as per the Concept of Operations.)

Mild Pandemics:

Impacts and Response Structure:

Mild pandemics (mortality and morbidity rates about the same to one and a half times seasonal influenza) on the order of the 1968 pandemic, will likely mimic the effects and impacts of seasonal influenza, perhaps with the addition of targeting some population groups not normally as susceptible to seasonal influenza. Mild pandemics will likely be able to be managed much as seasonal influenza is managed. LPHAs and health care organizations will likely be able to continue to function and provide response without moving into emergency response mode (i.e., without the activation of emergency operations centers and the utilization of ICS), though there may be some brief surge of activity in some areas of the state necessitating increased resource support and the activation of Emergency Operation Centers (EOCs). Significant prolonged support from emergency response, public safety and other support agencies and organizations will likely not be needed. Community functions and economic and social patterns should not be significantly disrupted, though there may be localized school closures and other interruptions of community social events due to isolated hotspots of disease. Public anxiety, with proper risk communications, should be able to be minimized. Without a good communication and marketing plan public anxiety may run high and disrupt planning assumptions.

Goals in Response:

As critical infrastructure is not anticipated to be greatly impacted and essential services will continue, the goal of response during a mild pandemic will be to reduce illnesses and deaths in those populations most at risk from the disease. Therefore, available resources, messaging, and response activities should be directed toward these targeted populations in order to prevent as many illnesses and save as many lives as possible.

Anticipated Activities:

- **Communications**
  - Basic public health messages - good handwashing, cough hygiene, sanitation, self-isolation if ill, etc. through routine distribution channels.
  - Some targeted messaging toward those most at risk.
  - Public communications on vaccination.
  - Information and messaging directed toward health care providers to provide them with relevant and correct information.

- **Community Containment**
  - **Non-pharmaceutical** - Intensive control efforts (such as case contact investigations, quarantine and isolation, and movement restrictions) may be utilized at the first emergence of the disease to slow rates of transmission, but become ineffective after the pandemic is widespread and should not continue to be utilized.
    - Basic public health measures widely encouraged (personal hygiene, sanitation, handwashing, etc.).
    - No emphasis on more widespread community containment messages (i.e., no call for school or childcare closures, restriction of public gatherings, etc.).
    - Strong emphasis on personal actions and accountability (stay home if ill messaging).

  - **Pharmaceutical**
    - Antivirals targeted toward treatment of those most likely to develop severe illness.
    - SNS supplies may or may not be needed depending on the time of year and the initial manifestation of the pandemic.

- **Vaccination**
  - Vaccine will be targeted toward and prioritized for the most susceptible populations for illness and death first, probably also the most critical front-line essential services personnel (health care, emergency medical services and public health) will be provided for, with the eventual goal of providing vaccine to all who desire to be vaccinated.

- **Surveillance**
  - Intensive use of available passive surveillance systems to ensure the pandemic is adequately monitored and characterized to provide situational awareness.
  - Targeted epidemiological studies done as needed to investigate unusual cases, clusters or fatalities.
  - Laboratory support (Missouri State Public Health Laboratory [MSPHL]) essential to provide confirmation of the virus upon first emergence in the state and to support Sentinel Providers and epidemiological investigations of unusual cases thereafter.

- **Health Care Systems Sustainment**
  - The majority of health care systems will be expected to have the capability and capacity to manage the medical surge of a mild pandemic.
  - Close monitoring of the system will be done (through tools such as the EMSystem and in partnership with Missouri Hospital Association [MHA] and Missouri Primary Care Association [MPCA]) to detect any areas with gaps in or loss of health care services.
  - Close coordination with key partners such as the MHA and critical regional collaboratives essential for information flow and situational awareness.
  - Priority will be to direct state resources and support to maintain these services in the most impacted areas.
  - It is anticipated that the majority of these shortages would be of a level that could be managed within the state without requesting federal resources or the assistance of the SEOC.
  - It is not anticipated that emergency medical services or mortuary services would be compromised.

Moderate Pandemics:

Impacts and Response Structure:

Moderate pandemics on the order of the 1957-58 pandemic will be characterized by a two to three fold increase in mortality over a typical seasonal influenza year and also have increases in the overall number of illnesses and hospitalizations. A pandemic of this magnitude will have increased likelihood of exceeding the surge capacity of health care and mortuary systems and it is expected that there would be a number of communities that would need state and federal support, perhaps over a few weeks period, to sustain these essential services. 9-1-1 call centers (Public Safety Answering Points) and emergency medical services could likewise be temporarily past capacity in some areas. Jurisdictions not needing state or federal assistance would need to be very well prepared and be taking community mitigation and educational steps to slow transmission rates and increase the capacities of essential services. Broader impact on critical infrastructure (power, water, fire, law enforcement, etc.) is expected to be minor and these services would largely be expected to remain intact, though there could be some spot disruptions of services for short duration, depending on community preparedness and capacity levels and on the particular epidemiology of the disease (i.e., which age groups—for example working age adults—are most impacted). Public anxiety may be heightened during a moderate pandemic, and there would be increased concerns over public unrest in circumstances where the demand is high for certain services or products (such as vaccine, medications and hospital beds) that may not be available in sufficient quantity to meet the public's expectations. Economic activity and social functions could see some disruptions, but these would be expected to be short-lived and occur only during the height of outbreaks in communities and would come about through individual actions rather than comprehensive government actions. Health and medical EOCs and ICS processes would need to be utilized, on an as needed basis, to effectively manage the response. The SEOC would most likely be at least partially activated to assist in the response, particularly if federal support is needed.

Goals in Response:

The goals in response to moderate pandemics are twofold. The primary objective remains to protect public health (i.e., reduce illness and death), but on occasion the primary objective may best be met through the sustainment of critical infrastructure, in particular the health care system. Efforts would therefore be focused on directing services and resources to those most impacted by the disease, and on assuring that the systems that care for the sick continue to function. This may mean prioritizing available medications and vaccine to health care and emergency medical systems workers so they can continue to provide services.

Anticipated Activities:

- **Communications**
  - Public health messaging to public, and information on vaccine.
  - Information provided to health care workers.
  - Increased need for calming and informative messages to the public as disruptions in services occurs.
  - Messages may need to be further coordinated through emergency management organizations, with the possible formation of joint information centers (JICs).

- **Community Containment**
  - **Non-pharmaceutical**
    - Individual actions as stressed in activities for "mild" pandemic continue.
    - Greater emphasis and reliance on broad-scope community containment measures to slow the rate of spread including:
      - School and childcare closures.
      - Closure of places of public assembly.
      - Possible closures of events.
  - **Pharmaceutical**
    - Antivirals targeted towards treatment of those most ill.
    - Possible use of antivirals for post exposure prophylaxis for outbreak settings of high risk populations.
    - Consideration of prophylaxis antiviral usage in certain critical occupational settings for maintenance of essential functions.

- **Vaccination**
  - Vaccine targeted toward highest risk groups.
  - Vaccine targeted toward critical infrastructure personnel.

- **Surveillance**
  - Intensive use of available passive surveillance systems to ensure the pandemic is adequately monitored and characterized to provide situational awareness.
  - Targeted epidemiological studies done as needed to investigate unusual cases, clusters or fatalities.
  - Laboratory support (MSPHL) essential to provide confirmation of the virus upon first emergence in the state and to support Sentinel Providers and epidemiological investigations of unusual cases thereafter.
  - Active targeted surveillance conducted as needed to provide specific information on disease spread and virulence.

- **Health Care Systems Sustainment**
  - Many of the health care systems in the state will be beyond capacity for extended periods.
  - There will likely be marked shortages in some areas, including Intensive Care Unit capacities for pediatrics, available ventilators and some types of personal protective equipment (PPE).
  - Waiting times to primary care physicians, clinics and hospital emergency departments may become very lengthy in some areas.
  - The state and federal governments will be heavily relied upon to backfill shortages in resources and staff.
  - Cooperation and communication with key partners will be essential to share resources and maintain continuity of operations.
  - EOCs (federal, state, local and hospital based) will likely need to be opened and maintained for lengthy periods to manage the response.
  - Emergency medical services may be severely strained in some areas.
  - Mortuary systems may have to make adjustments in operations to maintain services.

Severe Pandemics:

Impacts and Response Structure:

Severe pandemics (1918 like) are marked by a several order increase in mortality over a typical seasonal influenza year, will see a significant escalation in overall illness and hospitalization and will likely severely impact segments of the population (such as school-age children or young adults) not typically as affected by seasonal influenza. A severe influenza pandemic will likely affect all segments of society, could overwhelm or disrupt health care and mortuary systems and other essential services, and have the potential to severely disrupt commerce and economic activity, breakdown normal societal patterns and cause psychosocial trauma. With proper planning and strong public health, emergency management and health care systems, pandemics that in the past would have been severe may be mitigated to the "moderate" or "mild" categories. Local, state, and federal EOCs would need to be activated, most likely for extended periods, to manage the response and to sustain critical services and functions.

Goals in Response:

The goals in response to a severe pandemic remain two-fold, first to protect public health and second to maintain essential services. In a severe pandemic, with the degree of impact on critical infrastructure expected, the focus will likely be on the maintenance of essential services to best protect public health.

Anticipated Activities:

- **Communications**
  - Public health messaging to public, and information on vaccine.
  - Information provided to health care workers.
  - Calming and informative messages to the public as disruptions in services occur.
  - Messages coordinated through emergency management organizations, expected formation of JICs.

- Trusted state and community leaders used to deliver messages to the public and critical infrastructure service workers to maintain order.

- **Community Containment**
  - **Non-pharmaceutical**
    - Individual actions as stressed in activities for "mild" and "moderate" pandemics continue.
    - Broad-scope community containment measures utilized to slow the rate of spread including:
      - School and childcare closures.
      - Closure of places of public assembly.
      - Closures of events.

  - **Pharmaceutical**
    - Antivirals continue to be targeted to those ill and at highest risk for negative outcomes.
    - Some antiviral use, in particular if vaccine shortages occur, may need to be targeted to critical infrastructure workers for prophylaxis.

- **Vaccination**
  - Targeted to critical infrastructure workers first.
  - Protection of high risk groups second.
  - Coverage for general population third.

- **Surveillance**
  - Intensive use of available passive surveillance systems to ensure the pandemic is adequately monitored and characterized to provide situational awareness.
  - Targeted epidemiological studies done as needed to investigate unusual cases, clusters, or fatalities.
  - Laboratory support (MSPHL) essential to provide confirmation of the virus upon first emergence in the state and to support Sentinel Providers and epidemiological investigations of unusual cases thereafter.
  - Active targeted surveillance conducted as needed to provide specific information on disease spread and virulence.

- **Health Care Systems Sustainment**
  - The demand for services from all aspects of the health care system (e.g., primary care, emergency medical services, tertiary care, etc.) will exceed its capacity for an extended period of time.
  - There will be marked shortages of staff and resources in some areas of the state, including Intensive Care Unit capacities for pediatrics, available ventilators and some types of PPE.
  - Access to primary care physicians, clinics and hospital emergency departments may become impossible in some areas.
  - The state and federal governments will be heavily relied upon to backfill shortages in resources and staff.
  - Cooperation and communication with key partners will be essential to share resources and maintain continuity of operations.

- EOCs (federal, state, local and hospital-based) will need to be opened and maintained for lengthy periods to manage the response.
- Emergency medical services may be overwhelmed in some areas.
- Mortuary systems may be overwhelmed in some areas and rely on state and federal assistance.

- It will be essential for DHSS to
  - Monitor/track bed capacity of hospitals and long-term care facilities in the state.
  - Monitor/track Intensive Care Unit capacities in tertiary care centers statewide.
  - Monitor/track ventilator capacity and availability for effective distribution of state reserves.
  - Monitor/track primary care practitioners to evaluate populations' access to primary and preventive health care services, including immunizations.
  - Activate and deploy medical volunteers and medical reserve corps to alleviate severe health care practitioner shortages.
  - Request federal health care resources as available.
  - Activate and deploy state and (when available) emergency mortuary systems.
  - Assure communication and cooperation with key partners (health care providers, emergency medical services, local and federal agencies) to control distribution of scarce resources and maintain continuity of operations.

Roles and Responsibilities of the Missouri Department of Health and Senior Services

The checklists below reflect broad categories of action and roles and responsibilities that may be needed during a pandemic, dependent on the severity. In a mild pandemic, many of these actions will never be needed. They serve as a reminder of possible activities and of roles and responsibilities for those engaged in the response but do not replace specific job action sheets that may be needed nor dictate the response, which will be managed as outlined in the "Concept of Operations" section of this plan. If the Health and Medical Emergency Operations Center Department Situation Room [DSR]) or the State Emergency Operations Center (SEOC) is activated, these activities will be managed from within the ICS structure, with the listed subdivisions responsible for filling needed positions with persons of appropriate expertise.

Director's Office – Department of Health and Senior Services

Throughout the Pandemic Period:

- Will be notified by the Director of the Division of Community and Public Health (DCPH) of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will:
  - Consult with key staff and direct appropriate actions (as necessary, directly or through delegation):
  - Notify Governor's Office to provide awareness of the situation.
  - Notify LPHAs to:
    - Implement their pandemic flu plans.
    - Communicate updates.
  - Communicate status and key recommendations to DHSS staff.
  - Determine need and consider activating the DSR in conjunction with key staff and the Center for Emergency Response and Terrorism (CERT) Director.
  - Communicate with the Directors of other state agencies.
  - Communicate with the Region VII Federal Official in Charge, the Association of State and Territorial Health Officials, the CDC and other key federal partners.
  - Declare a public health emergency, if situation warrants.
  - Request Division Directors to identify staff not working on pandemic flu, reassign staff and develop work schedule, if needed.
  - Have Division Directors reduce programmatic functions to maintenance operations and designate available staff to assist in data entry, surveillance, vaccinations, medication distribution, etc., if situation warrants.
  - Implement the DHSS Pandemic Continuity of Operations/Continuity of Government (COOP/COG) plan, when needed.
  - Request assistance through SEOC, when needed.
  - Request the Governor to provide waivers or declare a state of emergency, when needed.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Office of General Counsel

Other Resources:

HHS Pandemic Influenza Plan – Legal Authorities

HHS Pandemic Influenza Plan – Part 2. Public Health Guidance on Pandemic Influenza for State and Local Partners

Throughout the Pandemic Period:

- Will be notified by the Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will:
  - Provide legal counsel.
  - Assist in updating documents as needed.
  - Serve as a liaison to other agencies legal staff.
  - Provide guidance and direction as needed.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Office of Public Information

Other Resources:

Public Information Annex

Summary of Public Health Roles and Responsibilities in Public Health Communications

Throughout the Pandemic Period:

- Will be notified by the Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will:
  - Coordinate and manage public information.
    - Develop key messages for media and general public.
    - Key message development and release should be coordinated with the local regional public health information officers.
  - Develop new messages in accordance with changes in the outbreak.
  - Coordinate messages with the Office of the Governor.
  - Coordinate messages with the SEMA and be prepared for the activation of a JIC, if needed.
  - Reexamine prepared media releases.
  - Update media releases if necessary.
  - Review and be prepared to use Public Information Emergency Communications Plan.
  - Check for availability of key spokespeople.
  - Brief key spokespeople as necessary.
  - Finalize communications strategy with key response staff.
  - Consult with DHSS subject matter experts if necessary.
  - Prepare for media and public inquiries.
  - Participate in/arrange media release and press briefings.
  - Schedule media informational workshops in several locations throughout the state.
  - Ensure web site information is updated routinely.
  - Be prepared to expand hotline to ten lines and add DHSS call handlers.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Division of Community and Public Health

Other Resource:

Special Needs and At-Risk Populations Annex

Throughout the Pandemic Period:

- Will be notified by State Epidemiologist of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing, Director of DCPH will:
  - Direct DCPH staff to assess situation and prepare response.
  - Notify key response staff that includes: Director and Deputy Director of DHSS, CERT, MSPHL, Division of Regulation and Licensure (DRL), Division of Senior and Disability Services (DSDS), Center for Local Public Health Services (CLPHS), Section for Disease Prevention (DP), Section for Environmental Public Health (EPH), Office of Public Information (OPI), Bureau of Immunization Assessment and Assurance (BIAA), Bureau of Communicable Disease Control and Prevention (CDCP), Office of General Counsel, Medical Advisors, State Pandemic Influenza Coordinator, State Epidemiologist and other experts and advisors as may be needed, both within the department and with other agencies.
  - Lead briefing discussions, as needed, to provide situational updates to key response staff. *(Briefing will be set up by DSR staff.)* Provide overview of ongoing DHSS activities with key response staff.
  - Project effects of the novel influenza outbreak.
  - Discuss major elements of enhanced surveillance.
  - Discuss vaccine/antiviral plan.
  - Recommend priority vaccination and antiviral distribution.
  - Discuss communication strategies for LPHAs, hospitals and public.
  - Discuss situational reports and provide recommendations for response strategies and actions to support local response and maintain critical infrastructure.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Center for Emergency Response and Terrorism

Throughout the Pandemic Period:

- Will be notified by State Epidemiologist of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will:
  - Set-up briefing of key staff, as needed, for Director of DCPH.
  - Communicate with external organizations by issuing a Health Alert.
  - Maintain communications with the Missouri State Emergency Management Agency (SEMA) and other external public safety and emergency response agencies, as needed.
  - Stand-up DSR, when directed by the Director of the DHSS.
  - Review and prepare the DHSS COOP plan for implementation, if requested by the DHSS Director or Chief Operating Officer.

Pandemic Influenza Coordinator

- Review and update Pandemic Influenza Response Plan as needed.
- Participate in briefings.
- Provide interpretation and guidance concerning plan details to key response staff.
- Coordinate with other state agencies on their plan implementation.
- Prepare briefing papers and analysis as needed.
- Provide suggestions for course of action following situational updates.
- Review Mass Fatality Plan and prepare resource requests as needed.
- Provide updates to the Director of CERT.

Health Care Systems Sustainment Coordinator

- Provide consultation to the DSR Medical Surge and Volunteer Coordination Stations.
- Facilitate collaboration with MHA, Mid America Regional Council (MARC), St. Louis Area Regional Response System, MPCA, MO 1-DMAT and Missouri Department of Mental Health.
- Participate in briefings.
- Participate on the DHSS team to evaluate requests for PPE and other supplies.
- Discuss situational awareness reports and provide recommendations for response strategies, as appropriate.

SNS Manager

- Coordinate inventory management of SNS assets held in receiving, staging and storage (RSS) site.
- Develop and coordinate pro-rata allocation of SNS assets to LPHAs, hospitals, other health care partners and state agencies.
- Develop and train local community partners on how to order SNS assets.
- Facilitate the ordering; picking and delivery of assets to local communities.
- Develop tracking mechanisms to quickly identify shortage areas and respond with needed assets. Use maps, prioritized algorithms and criteria for ILI cases in decision-making.

- Use evidence-based decision making for requests for additional SNS assets. Assure intelligence data is available and current when reviewing/sending supporting documentation to CDC for additional asset requests.
- Assure other state agencies have access to needed SNS supplies from the RSS.
- Monitor case infection rates, shortage areas and pro-actively remain in contact with community members to meet needs.
- Activate SNS Team Members as needed to receive, store and pick up orders and ship SNS assets from RSS site.
- Inform Missouri Board of Pharmacy of situational awareness of SNS drugs.
- Assure latest Federal Drug Administration/CDC guidance on emergency use authorization (EUA) and patient fact sheets is available for SNS asset disposition.
- Maintain LPHA secure website with latest guidance documents, tools and references.
- Assure DHSS leadership receives information in timely manner regarding receipt and disposition of SNS assets.

DSR Coordinator

- If DSR is activated, notify team members via the Emergency Notification System (ENS) and request their availability status.
- Notify LPHA's via the ENS as requested.
- Ensure DSR is staffed adequately.
- Make certain that all equipment and redundant communication systems are in working order at all times.
- Ensure that all team members reporting to the DSR are signed into the timeline for all communications.
- Assist the DSR Commander in monitoring fatigue of the Duty Officers and team members.
- Confirm that all Emergency Response Teams and DSR staff have necessary resources. This will include working with Finance/Administration to ensure that meals are provided for team members who will not be able to go off site when activated.
- Coordinate activation of Hotline Extension if required. Notify the Central Registry Unit Hotline (CRU – Elderly Abuse/Neglect Hotline) that the DSR is being activated and guidelines will be sent as soon as possible for potential worried well calls from clients/providers.
- Forward approved Health Alerts, Advisories and Updates to external organizations as requested.
- Assist the DSR Commander in determining if staffing in the DSR should be scaled up or down dependent upon the current needs of the event.
- Follow-up with the Finance/Administration team upon deactivation to determine cost of activation and potential for federal reimbursement.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Section of Epidemiology for Public Health Practice

Other Resource:

Summary of Public Health Roles and Responsibilities for Clinical Guidelines

Throughout the Pandemic Period:

- Will be notified by the CDC of the emergence of a novel influenza virus.
- Notify the Director of DCPH and other key response staff of the emergence of the novel influenza virus and provide updates (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- Participate in briefings.
- Provide analysis and recommendations for the management of the pandemic related to the situational updates.
- Carry out normal duties as they apply to outbreaks.
- Monitor bulletins and events related to influenza and engage in vigorous proactive communications with CDC related to the novel influenza virus.
- Monitor bulletins from CDC regarding virologic, epidemiologic and clinical findings associated with new variants isolated within and outside of the United States.
- Use statewide surveillance system to assure data can be analyzed in conjunction with CDCP.
- Work with CDCP to assure coordinated effort among regional staff and with the LPHAs in monitoring, tracking and studying the disease
- Conduct special epidemiological investigations or studies as needed or when requested by the CDC, of any special outbreaks, cases or fatalities from the novel virus to determine information that may be needed to best manage the disease.
- Maintain communications and coordinate tracking and management of the virus with other states.

Bureau of Vital Records

- Will coordinate the management of death certificates related to pandemic influenza with the LPHAs and local coroners, medical examiners and funeral directors.
- Will provide information and updates as needed to LPHAs, local coroners, medical examiners and funeral directors on pandemic influenza mortality information.
- Will track mortalities related to pandemic influenza and publish such results as needed.
- Will coordinate on the management of mass fatalities, if needed, with the State Pandemic Influenza Coordinator, SEMA, the Missouri Funeral Directors Association Rapid Response Team (MFDADRT) and local authorities.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Throughout the Pandemic Period:

- After receiving instructions from the Director of DCPH will:
  - Instruct the CDCP to:
    - Coordinate with the Office of Epidemiology (OOE) and CERT.
    - Analyze regional and state data from statewide surveillance systems in conjunction with OOE and CERT.
    - Provide a situational awareness report, as needed, to the Director of DCPH of ongoing trends and impacts of the disease across the state, capturing such information as school closures, outbreaks, percentages of visits to emergency rooms for influenza like illnesses (ILI), percentage of hospitalizations for ILI, trends of over the counter drug utilization and other information and data as is available to assist the key response staff in making informed decisions on response actions and resource allocations, utilizing all available surveillance tools.
    - Evaluate resources and prioritize staffing for pandemic response.
    - Work with CERT in the preparation of Health Alerts.
    - Coordinate with MSPHL on testing.
    - Coordinate with BIAA.
- Brief the regional senior epidemiologists with instructions to:
  - Participate in briefings.
  - Carry out normal duties as they apply to outbreaks.
  - Monitor bulletins and events related to influenza.
  - Work with regional and county staff in assigned area to implement vaccine distribution and administration plans.
  - Work with CERT to assure coordinated effort among regional staff.
  - Coordinate with state emergency response planners to evaluate resources available to vaccinate and manage the outbreak within assigned area.
  - Instruct the local epidemiologists to:
    - Review local plans– surveillance and vaccination/drug plans.
    - Meet with other regional staff to assure consistency in message and plan.
    - Initiate heightened surveillance, to include both active and passive surveillance.
    - Assure that all newly diagnosed cases are entered into the appropriate data surveillance system in a timely manner to provide current data for analysis.
    - Assist assigned counties as needed.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Section for Healthy Families and Youth

Throughout the Pandemic Period:

- After receiving instructions from the Director of DCPH will:
  - Evaluate resources available to sustain operations during the pandemic.
  - Instruct BIAA to:
    - Coordinate with the SNS Manager to:
      - Review vaccination plan.
      - Finalize establishment of priority groups in each community statewide.
      - Coordinate with LPHAs, hospitals, and CDCP on vaccination sites.
      - Provide vaccination guidance and technical assistance to LPHAs.
      - Coordinate with HHS on vaccine implementation strategies.
      - Monitor staffing/workload gaps.
      - Work with CERT in the preparation of Health Alerts.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Missouri State Public Health Laboratory

Other Resources:

Laboratory Preparedness Annex

Summary of Roles and Responsibilities for Public Health and Clinical Laboratories in Laboratory Diagnostics

Throughout the Pandemic Period (or until the virus is substantially characterized):

- Will be notified by Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will:
  - Enhance surveillance for the novel virus throughout the state by supplying such information on sample submission and protocols as necessary to Laboratory Response Network (LRN) laboratories, using Health Alerts created in cooperation with DCEE and CERT and by other communication means if necessary.
  - Increase communications with CDC to ensure the best information regarding strain typing, reagent specifics, and other such information related to the novel virus is available to MSPHL and associated network of partners.
  - Redirect laboratory staffing, inspect equipment, monitor supplies, and other such steps as needed in preparation for testing the novel virus.
  - Communicate expeditiously to DCPH, any confirmation of the novel virus within the state.
  - Coordinate, with LPHAs, in providing technical consultation, necessary sampling kits, and other assistance as may be needed for surveillance of the novel virus.
  - Update, in conjunction with DCEE and CERT, Health Alerts modifying (by prioritization of regions, details of sample submission, etc.) the enhanced surveillance effort for the novel virus.
  - Communicate expeditiously to DCPH, trends and movement of the novel virus within the state.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Center for Local Public Health Services

Other Resources:

HHS Pandemic Influenza Plan Part 2. Public Health Guidance on Pandemic Influenza for State and Local Partners

Throughout the Pandemic Period:

- Will be notified by Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will**:**
  - Maintain communication with the Administrator of DCEE.
  - Maintain communication with the DSR (once activated).
  - Maintain communication with LPHA Administrators.
  - Coordinate with the Chief, BIAA and SNS Manager on vaccine and antiviral information.
  - Interpret DHSS guidance for LPHAs, provide advice, maintain relationships, answer questions and make referrals.
  - Assist in the assessment of capacities and capabilities of LPHAs.
  - Serve as a conduit for information between DHSS and LPHAs.
  - Redirect staff and resources within CLPHS as necessary.
  - Maintain knowledge of the deployment level of the LPHA workforce.
  - Recommend LPHA representatives to provide local input.
  - Work with Director of DCPH to consider easing routine contract work of LPHAs to free staff for the pandemic effort.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Division of Senior and Disability Services

Other Resources:

Special Needs and At-Risk Populations Annex

Throughout the Pandemic period:

- Will be notified by Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing will**:**
  - Advise management staff of the situation, including all updates.
  - Facilitate ongoing communication with regional division staff.
  - Maintain ongoing communication with all partners, including Area Agencies on Aging, Home and Community Based Services (HCBS) providers, Centers for Independent Living, home care industry and other entities.
  - Handle issues/problems encountered by HCBS providers/vendors implementing service plans for priority clients during periods of high or extended absenteeism.
  - Track incident impact to clients of the DSDS via the Central Registry Unit.
  - Redirect staff and resources as necessary to support DSDS and DHSS operations.
- Will coordinate response activities through the DSR when activated.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Division of Regulation and Licensure

Other Resources:

Special Needs and At-Risk Populations Annex

Within the DRL, the Director's Office oversees the Section for Health Standards and Licensure (HSL), Section for Long Term Care (SLTC), Section for Child Care Regulation (SCCR), Certificate of Need, Family Care Safety Registry, the staff liaison for the Board of Nursing Home Administrators and Financial Support staff.

Throughout the Pandemic Period

- Will be notified by Director of DCPH of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing, the Director of DRL (or designee) will:
  - Communicate status of phase shifts and other updates/briefings with key Division staff, including Section Administrators.
  - Consult with key DHSS staff including DRL staff and direct appropriate actions.
  - Monitor staffing/workload and continuously assess gaps, resources and prioritize staffing for pandemic response.
  - Establish joint communication with the DHSS Director's office to:
    - Provide updated information to the DHSS Director's Office about status of licensees and division's current regulatory function capabilities.
    - Evaluate situational reports and provide recommendations for response strategies and actions to support local response and maintain essential functions.
    - Identity staff available who are not working on pandemic related activities to support other DRL or DHSS functions and redirect as necessary.
    - Report status of reassigned DRL personnel.
    - Provide situational awareness information about licensees/registrants.
  - Continue to refine the Division's Pandemic COOP/COG plan based on emerging information and best practices.
  - Work with OPI to create and direct the release of communications and/or educational material with key messaging for both internal and external stakeholders.
  - Ensure public Web site information related to DRL functions is routinely updated.
  - Ensure each program has a method so consultation and/or technical assistance for licensees is readily available.
  - Review and direct the implementation of the DHSS COOP/COG plan.
  - Direct staff about the receipt of priority prophylaxis based on DHSS guidance.
  - Issue directive that regulated entities be polled for assessment and capability.
  - Ensure mental health-specific services can be accessed for deployed DRL staff.
  - Maintain a pre-designated telephone line providing updated resources for DRL staff.
  - Maintain updated online resources for staff through dedicated SharePoint site for DRL staff.
  - Provide guidance to DRL staff for communicating with the media.
  - Ensure DRL staff implements a method to capture information necessary to update desk reference handbooks that describe how to carry out DRL's essential functions.
- Will coordinate response activities through the DSR when activated.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Section for Health Standards and Licensure

Other Resources:

Health Care Systems Readiness Annex

Summary of Roles and Responsibilities for Healthcare and Public Health Partners

Within the DRL, HSL oversees the following Bureaus:

- *Health Standards Regulation (BHSR)*
- *Home Care and Rehabilitative Standards (BHCRS)*
- *Narcotics and Dangerous Drugs (BNDD)*
- *Emergency Medical Services (BEMS)*

Throughout the Pandemic Period

- Will be notified by Director of DRL or designee of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing, HSL Section Administrator or designee will:
  - Provide direction to subordinate staff to carry out assigned duties unique to the situation based on Division priorities (ex. provide consultation, disseminate educational materials, conduct investigations, media inquiries).
  - Approve the release of communication media to internal and external stakeholders.
  - Monitor staffing/workload and continuously assess gaps, resources and prioritize staffing for pandemic response within HSL.
  - Establish two-way communication with the DRL Director at regular intervals to:
    - Provide information about staffing and status of HSL's regulatory and licensure functions.
    - Provide situational awareness information about facilities including availability of critical equipment, space and medicines.
    - Recommend redirection of available specialized staff, such as nursing or clinical laboratory staff, to support patient care activities, including mass prophylaxis or other essential functions for the DHSS.
    - Provide suggestions for updates of HSL's web information.
  - Direct staff to capture information to use for updating desk reference handbooks post-pandemic.
  - Issue a directive to activate local response plans.
  - Brief new employees assigned to work in HSL during pandemic.
  - Provide reassigned staff with a desk reference manual for any position required to handle an essential function.
  - Assure communications with key stakeholders (including points of dispensing [POD] sites) and staff occur regularly with the most up to date information available.
  - Poll licensees to update availability of critical equipment, space and medicines.
  - Implement phases of reduced programmatic functions and designate staff to participate in maintenance of essential functions, including adequate staffing levels for the medical surge desk.

- Encourage deployed staff in affected regions to take advantage of mental health services.
- Handle triaged complaints based on available staff.
- Implement altered standards.
- Provide specialized pandemic related consultation and technical assistance licensees/registrants.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Section for Long Term Care

Within the DRL, SLTC oversees the following Units:

- *Planning and Development*
- *Registry and Review*
- *Quality Assurance*
- *Survey and Compliance*
- *Licensure and Certification*
- *Operations*
- *Regions 1–7*

Throughout the Pandemic Period:

- Will be notified by Director of DRL or designee of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing, SLTC Section Administrator or designee will:
  - Provide direction to subordinate staff to carry out assigned duties unique to the situation based on Division priorities (ex. provide consultation, disseminate educational materials, conduct investigations, media inquiries).
  - Approve the release of communication media to internal and external stakeholders.
  - Monitor staffing/workload and continuously assess gaps, resources and prioritize staffing for pandemic response within SLTC.
  - Establish two-way communication with the DRL Director at regular intervals to:
    - Provide information about staffing and status of SLTC's regulatory and licensure functions.
    - Provide situational awareness information about facilities including location and number of high-risk residents and locations for ancillary medical treatment.
    - Recommend redirection of available specialized staff, such as nurses to support patient care activities, including mass prophylaxis or other essential functions for the DHSS.
    - Provide suggestions for updates of SLTC's web information.
  - Direct staff to capture information to use for updating desk reference handbooks post-pandemic.
  - Issue a directive to activate local response plans.
  - Brief new employees assigned to work in SLTC during pandemic.
  - Provide reassigned staff with a desk reference manual for any position required to handle an essential function.
  - Assure communications with key stakeholders and staff occur regularly with the most up to date information available.
  - Poll licensees to update availability of critical equipment, space and medicines.
  - Implement phases of reduced programmatic functions and designate staff to participate in maintenance of essential functions, including adequate staffing levels for hotlines.
  - Encourage deployed staff in affected regions to take advantage of mental health services.

- Handle triaged complaints based on available staff.
- Implement altered standards.
- Provide specialized pandemic related consultation and technical assistance to licensees/registrants.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

Section for Child Care Regulation

Within the DRL, SCCR oversees the staff in six districts.

Throughout the Pandemic period:

- Will be notified by Director of DRL or designee of the emergence of a novel influenza virus and receive regular briefings (in person or through written situational reports) of significant changes in the status and spread thereof thereafter.
- After briefing, SCCR Section Administrator or designee will:
  - Provide direction to subordinate staff to carry out assigned duties unique to the situation based on Division priorities (ex. provide consultation, disseminate educational materials, conduct investigations, media inquiries).
  - Approve the release of communication media to internal and external stakeholders.
  - Monitor staffing/workload and continuously assess gaps, resources and prioritize staffing for pandemic response within SCCR.
  - Establish two-way communication with the DRL Director at regular intervals to:
    - Provide information about staffing and status of SCCR's regulatory and licensure functions.
    - Provide situational awareness information about facilities including location, limitations and capacity.
    - Recommend redirection of available staff to support other essential functions for the DHSS.
    - Provide suggestions for updates of SCCR's web information.
  - Direct staff to capture information to use for updating desk reference handbooks post-pandemic.
  - Brief new employees assigned to work in SCCR during pandemic.
  - Provide reassigned staff with a desk reference manual for any position required to handle an essential function.
  - Assure communications with key stakeholders and staff occur regularly with the most up to date information available.
  - Poll licensees to update availability of space and limitations.
  - Implement phases of reduced programmatic functions and designate staff to participate in maintenance of essential functions.
  - Encourage deployed staff in affected regions to take advantage of mental health services.
  - Handle triaged complaints based on available staff.
  - Implement altered standards.
  - Provide specialized pandemic related consultation and technical assistance to licensees.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response.

DHSS Mental Health Coordinator

Other Resources:

Mental Health Annex

Summary of Public Health Roles and Responsibilities in Workforce Support

Throughout the Pandemic Period:

- Upon emergence of the novel virus and notification by CERT will:
  - Evaluate mental health assets and anticipated resources required to meet the threat at hand.
  - Notify mental health experts and other partners to be ready for possible activation in response to a public health emergency.
  - Provide *ad hoc* training and orientation for those mental health professionals who may be deployed to support emergency-related public health response efforts (mass prophylaxis sites, local hospitals, alternate care facilities, etc.).
  - Provide consultation to local mental health providers in adapting their response for special populations (hospital and health care workers, children, older adults and ethnic communities, first responders, homebound, etc.).
  - Provide consultation and training for frontline public health workers, such as state and LPHA staff, physicians, nurses, medical technicians and others in anticipating and responding to epidemic-related mental health behaviors such as stress reactions, misattribution of normal arousal symptoms and panic.
  - Disseminate psycho-educational materials to various populations addressing the mental health impact of the pandemic event, as well as strategies for coping with fear and anxiety and access to mental health services.
  - Conduct mental health-specific needs assessments and rapid identification of vulnerable populations and gaps in mental health services that may exacerbate the psychosocial response to the event.
- Upon sustained transmission of the novel virus in the state and as needed will:
  - Be notified of the change in status by CERT.
  - Continue with the above. In addition will:
    - Utilize existing relationships with Voluntary Organizations Active in Disasters and faith-based organizations in coordinating and unifying mental health messages and strategies.
    - Work with Public Information Officers to craft public service mental health messages in support of the overall emergency public health response.
    - Increase recruitment of qualified outreach workers to provide community-based crisis counseling and psycho-education in rural and otherwise difficult to reach communities.
    - Update and modify online mental health/pandemic-related websites.
    - Deploy counselors to deliver multi-lingual, multi-cultural mental health support services directed at all critical outbreak-related functional areas (SNS Receiving, Storage and Staging sites, POD Sites, public health headquarters, emergency medical service bases of operation, etc.).
    - Provide stress management services and training for those public health personnel working in high-demand settings.

- Deploy staff (life safety issues not withstanding), to high-emotion locations (morgues, funeral homes, hospitals, pediatric units, pharmacies, etc.) to work to reduce agitation among individuals who are upset.
- Coordinate with other crisis counseling programs (American Red Cross, county prosecutor's victims advocates, etc.) to ensure the interoperability of counseling services at all points within the community.
- Deliver (life safety issues notwithstanding) support services to schools and other institutions to assist staff, students/residents, etc., with grief and bereavement issues and the cumulative stresses related to a protracted health emergency.
- Offer ongoing stress management activities for crisis counselors and other mental health workers engaged in any outbreak-related efforts.
- Offer ongoing stress management services to personnel within the incident command and control structure of the emergency management system.
- Deliver specialized mental health support services to medical professionals, first responders and public health workers to address stress management concerns to reduce the potential for adverse psychological reactions within their workforces.

- Between pandemic waves and after the end of the pandemic as needed will:
  - Continue with the above. In addition will:
    - Provide ongoing support for clergy, morticians and funeral workers.
    - Promote the development of grass roots, community self-help groups to address the long-term emotional consequences of the pandemic.
    - Promote and offer technical assistance and other peer-support programs to first responders to address the potential long-term emotional impact of the event.
    - Deliver debriefing and other post-event psychological services for first responders, public health and other professionals involved in the event.
    - Work with community mental health provider agencies, academic institutions and other specialists to develop treatment models to address the lingering or long-term emotional consequences of the pandemic event.
    - Maintain a telephone help-line providing tele-counseling, updated resources and facilitated referrals for behavioral health services, as well as online resources.
    - Maintain online psycho-educational and resource/referral web sites developed during earlier phases.

DHSS will direct response per the Concept of Operations. These checklists serve as reminders of broad categories of roles and responsibilities for pandemic influenza response

Concept of Operations

Objectives

1. Describe command structure and decision making process.
2. Outline roles and responsibilities of DHSS and other agencies.

A. Command and Control

Response to pandemic influenza will use the same command and control system developed for other public health emergencies in Missouri. This section highlights activities specific to pandemic influenza response and the role of DHSS in this response.

1. Authority for Direction of Control

The overall authority for direction and control of the response to a pandemic influenza within Missouri rests with the Governor. The Missouri Constitution identifies the officers next in line of succession in the following order: Lieutenant Governor, President Pro Tempore of the Senate, Speaker of the House, Secretary of State, State Auditor, State Treasurer or the Attorney General.

The Governor is assisted in the exercise of direction and control activities by the staff of the Governor's office and in the coordination of response activities by the Missouri Department of Public Safety and State Emergency Management Agency (SEMA). SEMA coordinates federal, state, local, and private resources throughout the State during any disaster and emergency. SEMA maintains and operates the State Emergency Operations Center (SEOC) which monitors for emergencies statewide 24 hours a day, 7 days a week. The SEOC serves as the command and control center for the State during an emergency. Fully activated, the SEOC is staffed according to 16 Emergency Support Functions (ESF). The Department of Health and Senior Services (DHSS) heads ESF 8 "Health and Medical".

Activation of the SEOC:

a) improves communication between and among various agencies,
b) facilitates communication with other states, the federal government, and local public and private entities, and
c) enables the capacity to deploy assets, support operations to ESFs, and ensure timely and appropriate response to the emergency.

Outlined within the State Emergency Operations Plan (SEOP) are policies, concepts of operations, organizational structures and federal-state-local interfaces. The SEOP contains specific language pertaining to the provision of Health and Medical Services (Annex K under the primary responsibility of DHSS) in response to emergencies and disasters. DHSS, as outlined in Annex K , has primary responsibility in the state for Emergency Support Function #8 (Health and Medical). Annex K identifies roles and responsibilities of DHSS and of all support agencies should a disaster or emergency (including an influenza

pandemic) overburden or overwhelm local capacities. This plan will be followed should the SEOP and SEOC require activation to support the local response.

DHSS is a lead agency in Missouri's response to pandemic influenza. Overall authority for direction and control of the resources of DHSS that respond to a pandemic influenza is the DHSS Director. The line of succession for the DHSS Director is the Deputy Department Director. The DHSS Director is assisted in the coordination of pandemic influenza response activities by the Director of the Division of Community and Public Health (DCPH), Director of the Center of Emergency Response and Terrorism (CERT) and other designated staff. The Director of DHSS will evaluate the need for activation of the DHSS Health and Medical Emergency Response Department Situation Room (DSR), or to request activation of the SEOC, based on situational information during the pandemic.

2. Command and Control Process

The strategic direction and control for Missouri's response to a public health emergency is a coordinated function of the DHSS through the DSR and the SEOC, dependent upon the level of activation needed. During emergencies, DHSS will coordinate response activities using an incident management system (IMS), superimposed over the regular programmatic chain of command. The DSR will manage the traditional functions of incident command system (ICS) (Command, Planning, Operations, Logistics, Finance and Administration) within DHSS's existing systems to facilitate an integrated and comprehensive response. Several staff may be identified for each incident command role for anticipated length of the pandemic period.

It is expected that local health agencies will also direct their response activities using IMS. If the magnitude of a pandemic flu crisis exceeds the capabilities and resources of the local incident commander or when the efforts of multiple jurisdictions are required in order to resolve a crisis situation, the ICS command function will evolve into a ***Unified Command*** (UC). Under UC, a multiagency command post will be established, incorporating officials from agencies with jurisdictional responsibility at the incident scene. Multiple agency resources and personnel will then be integrated into the ICS as the single overall response management structure at the incident scene.

At a local government's request and during the period of a large-scale pandemic influenza emergency, state agencies will mobilize and deploy resources to the affected area to assist local governments, and coordinate the delivery of services from the federal government. The affected local government(s) will be responsible for identifying and communicating response priorities and state resource requirements to the SEOC, through the Unified Area Command (UAC) if activated. If the SEOC is not activated, LPHAs should direct resource requests through the DSR and these requests should come through the local EOC, if activated.

For health care organizations, the standards of the Joint Commission on the Accreditation of Healthcare Organizations (EC.1.4 and EC.2.4) require accredited healthcare organizations to identify a community command structure and define an all-hazard command structure within their organization that links to the community structure.

3. DHSS Health and Medical Emergency Response Department Situation Room (DSR)

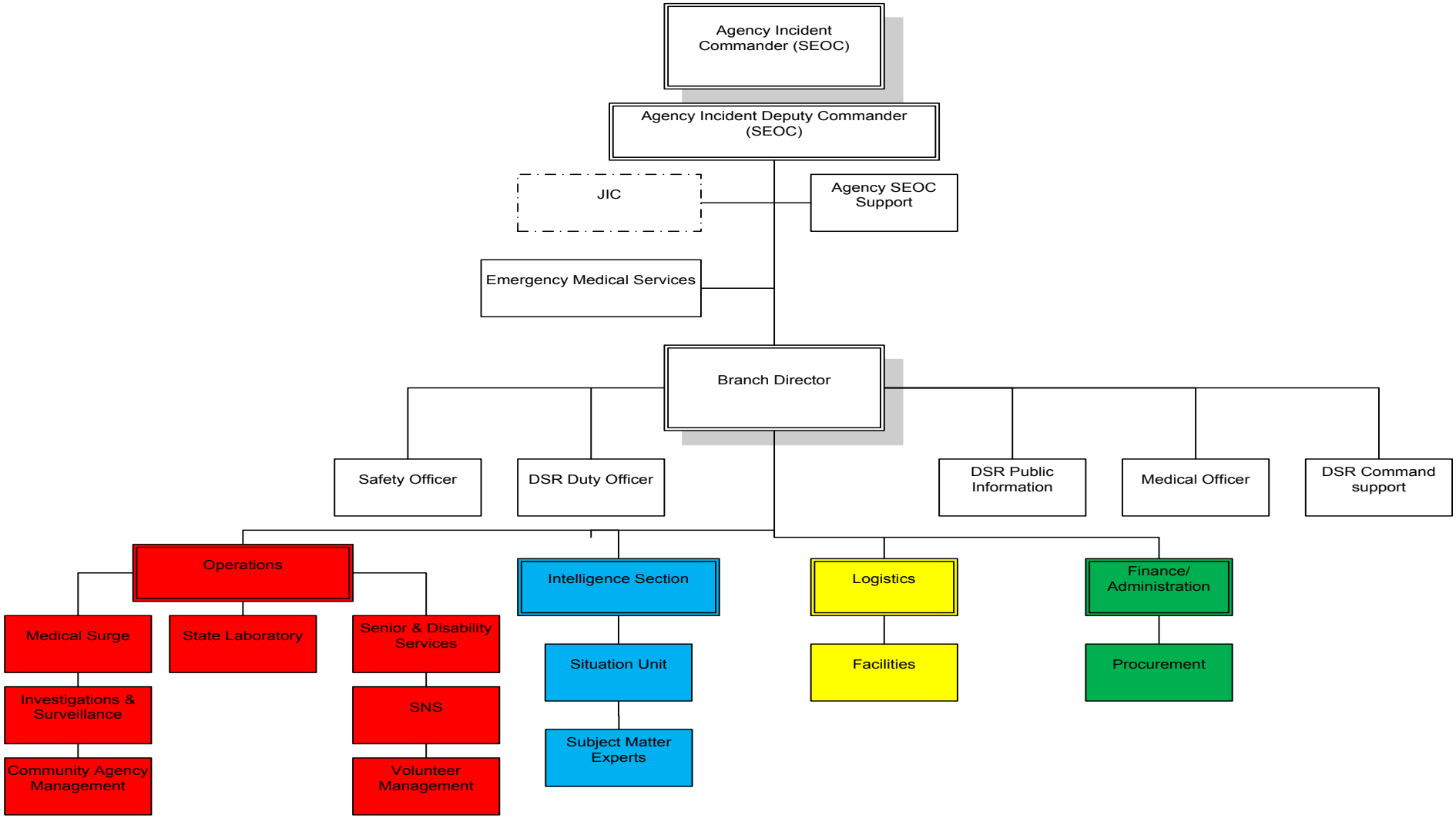
The DSR is located on the main DHSS campus in Jefferson City and serves as the strategic coordination point for public health and medical operations. The DSR maintains 24/7/365 staffing and toll-free call number (800-392-0272) ensuring functional ability to operate as a command and control center in the event of a public health emergency. Routine situational status updates, and the spread and impact of the novel influenza virus will be provided for informed decision making. The DHSS Director will evaluate the situation and make a determination whether activation of the DSR should occur and if so, what level of activation he/she recommends for the DSR. Additionally, if SEOC is activated, the DSR will serve as the coordination point with the Health and Medical Team assigned to the SEOC. The DSR will distribute health alerts, advisories and updates to LPHAs, health care entities and other partners, and will establish and maintain communications with these entities to address the public health needs of Missourians.

4. Joint Information Center (JIC)

The purpose of a JIC is to coordinate the flow of information about the pandemic and related response issues among agencies, and to provide a single information source for the media, business community and general public. The JIC is an element of the SEOC where the emergency response is coordinated. The establishment of a JIC will be necessary under one or more of the following circumstances:

a) The Director of DHSS in consultation with the Missouri Department of Public Safety and the Governor's Office determines the need exists for the activation of the SEOC and the JIC.
b) Multiple local, state and federal agencies are involved in the information dissemination concerning the emergency situation (i.e., influenza pandemic) and the release and management of this information has become disjointed and fragmented leading to public confusion and concern.
c) The volume of media inquiries appears to overwhelm the capabilities of the public information officers within the DSR.

Missouri Department of Health and Senior Services Incident Command Structure



B. Agencies and Responsibilities

1. Primary Agency

Missouri DHSS:

- Serves as the lead agency for pandemic influenza preparedness and response. Once the Governor declares a public health emergency, DHSS oversees the uniform exercise of the Emergency Health Powers Act (EHPA). Local boards of health are subject to the department's exercise of this authority.
- Provides subject matter expertise (e.g., surveillance, laboratory diagnostics, infection control, clinical guidelines).
- Provides accurate and timely medical and health information to stakeholders and the public.
- Provides epidemiological guidance for response activities.
- Plans for statewide prophylaxis and vaccination.
- Works with LPHAs to guide coordinated planning and response.
- Provides planning guidance to healthcare entities (hospitals, long term care facilities [LTCFs], home health agencies and hospice agencies, emergency medical services [EMS], primary care centers, private health professionals, alternate care sites).
- Maintains State Strategic Stockpile (SSS) of pharmaceuticals and antivirals.
- Distributes resources from the SSS and Strategic National Stockpile (SNS).
- Serves as liaison with HHS during planning and response activities.

2. Support Agencies

LPHAs:

- Develop and implement plans in coordination with DHSS and acute care hospitals, LTCFs and other health care entities in their jurisdictions.

Missouri Hospital Association (MHA)

- Works with its members, develops pandemic influenza response plans that include appropriate infection control, surge capacity, and cross-training of staff
- Complies with DHSS- issued guidance

Acute Care Hospitals

- Develop and implement influenza pandemic plans that include appropriate infection control and surge capacity.
- Train staff and exercise pandemic response plans.
- Comply with DHSS-issued guidance.

Long Term Care Facilities (LTCFs)

- Collaborate with their area hospitals' requests regarding surge capacity plans.
- Train staff and exercise pandemic response plans.
- Comply with DHSS guidance.

Rehabilitation hospitals, long term acute care hospitals, and other specialty hospitals

- Collaborate with their area hospitals' requests regarding surge capacity plans.

- Train staff and exercise pandemic response plans.
- Comply with DHSS guidance.

Home Care Association

- Provides influenza pandemic related guidance (infection control, voluntary isolation and quarantine) to agency members.

Home Health Agencies and Hospice Agencies

- Provide information and education to staff and influenza pandemic related guidance (infection control, voluntary isolation and quarantine) to patients in the home.

Federally Qualified Health Centers (FQHCs)

- Plan to serve as screening, triage, and treatment centers.
- Train staff and exercise pandemic response plans.

State's Professional Medical Associations

- Provide influenza pandemic related guidance to association members.

C. Activities by Pandemic Interval

1. Pre-pandemic Interval

DHSS activates Department's Pandemic Influenza Preparedness Committee.

DHSS and LPHAs

- Identify and establish relationships with partner organizations and maintain lists of partners, resources, and facilities.
- Identify and resolve gaps in infrastructure and resources, laws and/or statutes which may interfere with an effective pandemic response.
- Coordinate planning activities with bordering jurisdictions.
- Ensure that unique population and special care needs are addressed.
- Discuss plans with partner agencies.
- Review, exercise, and modify pandemic response plan on a periodic basis.
- Ensure that pandemic plans are developed, either as a supplement to the All Hazard Emergency Operations Plans, or as stand-alone plans.

2. Pandemic Interval

DHSS

- Activate enhanced surveillance and communications plans.
- Review and modify pandemic plan as necessary.
- Fully activate pandemic influenza preparedness plan.
- Coordinate plan activation with partners and stakeholders.
- Communicate with appropriate counterparts at the national level (CDC, CSTE, etc.).
- Participate in HHS/CDC public information briefings.
- Activate JIC.

DHSS and LPHAs

- Meet with partners and stakeholders and review pandemic response plan.
- Make response plan modifications as needed.
- Coordinate with other counties, states, federal agencies and bordering jurisdictions as appropriate.
- Confirm availability of facilities for mass vaccination, mass casualty, etc.
- Track expenses of pandemic response and notify appropriate agencies and officials of need for additional resources, if necessary.
- Increase public awareness of pandemic influenza and educate about appropriate behaviors for infection risk reduction.
- Hold internal, partner, and media briefings as necessary to update information and discuss response activities.
- Activate call centers and implement targeted strategies to reach different audiences
- Monitor staffing needs.
- Document expenses of pandemic response.

D. Legal Authorities

The Missouri Revised Statutes and the Code of State Regulations provides DHSS with the authority to safeguard the health of the people of the state and all its subdivisions. DHSS and local public health authorities are authorized to investigate the causes of dangerously contagious or infectious diseases, especially when existing in epidemic form, and to take measures to restrict and suppress the same. Whenever such disease becomes or threatens to become epidemic and the local public health authority neglects or refuses to perform these duties, DHSS is responsible to provide measures to control the outbreak. Moreover, DHSS is able to issue orders for the administration of vaccines, medications or other treatments to persons as necessary to prevent the probable spread of a dangerously contagious or infectious disease. DHSS and local public health authorities also have the authority to request quarantine and isolation and to close private and public schools and places of public assembly to contain disease spread.

According to Section 192.020, RSMo 2000, the DHSS may make and enforce adequate orders, findings, rules and regulations to prevent the entrance and spread of infectious, contagious and communicable diseases and to determine the prevalence of such diseases within the state.

The county commissions and county health center boards may make and promulgate orders, ordinances, rules or regulations, respectively as will tend to enhance the public health and prevent the entrance of infectious, contagious, communicable or dangerous diseases into such county (Section 192.300, RSMo 2000).

The local health authority, the director of the Department of Health or the director's designated representative may establish and maintain quarantine, isolation or other measures as required**,** which may include isolation, quarantine, disinfection, immunization, closure of establishment and other measures considered appropriate by medical experts for the protection of public health. Control measures implemented by the local health authority must be at least as stringent as those established by the director of the Department of Health and are subject to review and alteration by the director. If the local health authority fails to carry

out appropriate control measures, the director or his/her designated representative shall take steps necessary to protect the public health (19 CSR 20-20.040).

According to the 19 CSR 20-20.050, a local health authority, the director of DHSS or the director's designated representative may close any public or private school when necessary to protect the public health. During a statewide pandemic, only the director of DHSS or the director's designated representative may close any public or private school when necessary to protect the public health.

Definitions

Antigenic drift - The gradual alteration by point mutations of the haemagglutinin (HA) and neuraminidase (NA) proteins within a type or subtype which results in the inability of antibodies to previous strains to neutralize the mutant virus. Antigenic drift occurs in both influenza A and B viruses and causes periodic epidemics.

Antigenic shift - The appearance in the human population of aninfluenza A virus containing a novel HA protein with or without a novel NA protein that are immunologically different from those of isolates circulating previously. Antigenic shift is responsible for worldwide pandemics.

Antivirals - Drugs used for the treatment, and in some instances prevention, of viral infections including those caused by influenza viruses. Two classes of antiviral drugs have been used for treatment and prevention of influenza: the neuraminidase inhibitors (Tamiflu® and Relenza®) and the adamantanes (amantadine and rimantadine).

Avian Influenza - All known avian flu viruses belong to the species of virus called influenza A virus. All subtypes of influenza A virus are adapted to birds, which is why for many purposes avian flu virus *is* the influenza A virus.

Disease surveillance - The systematic, continuing assessment of the health of a community, based on the collection, interpretation and use of health data. Surveillance provides information necessary for public health decision-making.

Epidemiology - The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.

Influenza epidemic - An outbreak of influenza caused by influenza A or B viruses that have undergone antigenic drift. The terms “influenza epidemic” and “influenza outbreak” have the same meaning, and may occur locally or in many parts of the world during the same season.

Influenza pandemic - By convention, worldwide outbreaks of influenza caused by influenza A viruses that have undergone antigenic shift. However, as recently demonstrated, an antigenically novel virus of an existing subtype is capable of pandemic spread.

Health Alert - Notices provided by government and/or health-related organizations concerning relevant information related to the health and safety of the public. These may include notices of travel restrictions, information concerning sites of novel outbreaks around the world, notification of WHO phase shifts etc.

Influenza Like Illness (ILI) - ILI is defined as documented fever >100.4°F (38.0°C) **and** cough, sore throat or shortness of breath.

Isolation - The separation for the period of communicability of infected individuals from other individuals, in places and under conditions as will prevent the direct or indirect transmission of the infectious agent from infected individuals to other individuals who are susceptible or who may spread the agent to others. Isolation may be voluntary or enforced.

Novel Influenza Virus - Virus that has never been reported in the past to cause human illness or a virus that has not circulated in many years and therefore is novel to the human population and has inherent immune resistance.

Points of Dispensing - Predefined sites used for dispensing critical supplies to hospitals and people. These items might include those maintained as part of the SNS or vaccine distribution.

Priority Groups - Those groups identified to be in the greatest need of a service, such as vaccination or antiviral treatment or scarce medical resources or care, in the event of a pandemic influenza outbreak.

Providers - Those individuals providing services directly to the community. Examples include physicians, nurses, hospitals, etc.

Public Health Emergency - Emergency health threats, including pandemic influenza, that require exercise of essential government functions to ensure the safety of their residents. By declaring an emergency, officials are enabled to enact plans that have been designed to best serve their people while acknowledging the threat of this event requires the attention of various state organizations.

Quarantine - A period of detention for persons that may have been exposed to a reportable disease. The period of time will not be longer than the longest period of communicability of the disease. The purpose of quarantine is to prevent effective contact with the general population. Quarantine may be voluntary or enforced.

Sentinel Providers - Missouri physicians of any specialty who, in agreement with DHSS, report the total number of patient ambulatory visits each week, as well as the number of patient visits for ILI.

Situational Awareness - The ability to generate actionable knowledge through the use of timely and accurate information. This ability is critical, to have and maintain, during a pandemic to create a “common operating picture” so important decisions on response actions and resource allocations can be quickly and correctly made.

State Program Managers - Individuals responsible for unique components of the state pandemic influenza plan. These leaders are entrusted to oversee the development and implementation, as needed, of the pandemic influenza response plan.

Strain Typing - Laboratory analysis of isolates collected from infected individuals to determine the subtype of influenza virus responsible for the infection and resulting illness.

Strategic National Stockpile - CDC's SNS has large quantities of medicine and medical supplies to protect the American public if there is a public health emergency severe enough to cause local supplies to run out. Once federal and local authorities agree that the SNS is needed, medicines will be delivered to any state in the U.S. within 12 hours

Virological surveillance - The ongoing and systematic collection and analysis of viruses in order to monitor their characteristics.

Pandemic Influenza Surveillance

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INTRODUCTION

The rapidity with which the pandemic (H1N1) 2009 virus spread highlighted the need for timely and effective surveillance systems to detect emerging viruses with pandemic potential, and the need for data sharing and dissemination.

OBJECTIVES

- Early detection of cases of respiratory infections due to novel influenza virus or an avian flu virus.
- Timely, complete and consistent reporting of influenza cases.
- Monitor changes in the circulating pandemic virus and other co-circulating respiratory viruses.
- Ongoing assessment of the morbidity and mortality in the affected communities.

PLANNING ASSUMPTIONS

- It is unlikely, but not impossible, that the first cases will arise in the United States or even in Missouri.
- The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) will coordinate surveillance at the international and national level.
- The types and level of surveillance will depend on the global, regional, and local epidemiology of an influenza pandemic.
- Surveillance actions will differ if infections due to a novel influenza virus occur in the United States or in another country or if person-to person spread is slow, limited or widespread.
- Missouri Department of Health and Senior Services (DHSS) will provide updated surveillance guidance to medical providers and local health departments on an ongoing basis and will ensure consistency with recommendations from the CDC and WHO.
- Influenza surveillance will need to be conducted throughout the year.
- As the pandemic progresses in Missouri, disease surveillance systems may be overwhelmed.
- Illness, disruption and death could result in significant reductions in the personnel available to perform these tasks at the very time the workload is greatest.
- Despite the potential barriers to the efficient operation of our surveillance systems, the information gathered by those systems will be of vital importance for informing the public about the progress of the pandemic and its health impact.
- As the pandemic progresses further in Missouri, surveillance activities will shift away from individual case identification and toward identifying impact on communities and defining overall pandemic trend in the state.
- Influenza surveillance needs to be a flexible system, so that it can adapt to the pertinent epidemiology of the novel viruses.
- Activities outlined below will be contingent on local, national and international pandemic influenza activity at the time and may change as a pandemic evolves.

Reporting rules for influenza in Missouri
The rules regarding the reporting of communicable diseases are set out in Title 19, Chapter 20 of the Code of State Regulations (19 CSR 20).

19 CSR 20-20.010 (29) defines an outbreak as "the occurrence in a community or region of an illness(es) similar in nature, clearly in excess of normal expectancy….",

19 CSR 20-20.020 sets out the details of what shall be reported, by whom and under what circumstances.

- **Section 6** sets out those who are required to report by stating, "A physician, physician's assistant, nurse, hospital, clinic, or other private or public institution providing diagnostic testing, screening or care to any person with any disease… shall make a case report to the local health authority or the Department of Health and Senior Services."
- **Section 1, C** states that "Instances, clusters, or outbreaks of unusual, novel, and/or emerging diseases or findings not otherwise named in this rule, appearing to be naturally occurring, but posing a substantial risk to public health and/or social and economic stability due to their ease of dissemination or transmittal, associated mortality rates, or the need for special public health actions to control." and shall be reported to the local health authority or to the Department of Health and Senior Services immediately upon knowledge or suspicion by telephone, facsimile or other rapid communication.
- **Section 2, A** states that "Influenza-associated pediatric mortality (eighteen (18) years of age or younger), influenza-associated public and/or private school closures, Novel Influenza A virus infections, human and outbreaks (including nosocomial) or epidemics of any illness, disease or condition that may be of public health concern shall be reported to the local health authority or to the Department of Health and Senior Services within 1 day of knowledge or suspicion by telephone, facsimile or other rapid communication."
- **Section 4** states that laboratory confirmed influenza shall be reported on a weekly basis.
- **Section 7, C** states "Influenza, laboratory-confirmed reporting as required in section (4) of this rule shall include the patient's age group (i.e., 0–4, 5–24, 25–64, and 65+ years) and serology/serotype (i.e., A, B, and unknown), the local health authority jurisdiction within which the cases occurred, and the date of report. Aggregate patient data shall be reported weekly."

INFLUENZA SURVEILLANCE DURING THE PRE-PANDEMIC PERIOD

The public health goals of influenza disease surveillance are to serve as an early warning system and to detect increases in influenza like illness (ILI) at the local level, to monitor the impact of influenza on health (e.g., by tracking outpatient visits, hospitalizations, and deaths), and to track trends in influenza disease activity and identify populations that are severely affected. During the **pre-pandemic period**, these goals are accomplished through the components of the national influenza surveillance system. The following components of influenza surveillance are functioning in Missouri.

Outpatient surveillance

ILI surveillance

Sentinel Provider Network (SPN) with approximately 33 healthcare providers statewide report the number of weekly outpatient visits for ILI and submit specimens from a small subset of patients to the Missouri State Public Health Laboratory (SPHL) for influenza virus testing. Routine frequency involves submission of 3 specimens during the start (October through December), middle (January through March) and toward the end (April through May) of the standard influenza season, plus 3 specimens during the June through September "off season".

Syndromic surveillance

Hospital Electronic Syndromic Surveillance (HESS) Reporting Rule (19 CSR 10-33.040) requires that 84 out of 123 hospitals with emergency departments report electronic data to DHSS specifically for syndromic surveillance. HESS is an automated system that captures about 90% of all emergency department visits in Missouri. These data are processed, analyzed, and viewable through the Missouri Electronic Surveillance System for the Early Notification of Community-based Epidemics **(**ESSENCE**)** system. ESSENCE is a web-based automated surveillance tool developed by the Johns Hopkins University Applied Physics Lab. Software is maintained by Johns Hopkins University designed to analyze electronically submitted emergency department data for significant changes in the number of individuals presenting in identified syndrome groups. These aberrations are identified as "alerts" and are investigated as needed by state and local staff. Missouri ESSENCE is maintained on DHSS servers and is accessible to over 300 state and local public health authorities and hospital staff. ESSENCE is maintained and monitored daily by DHSS Public Health Event Detection and Assessment (PHEDA) staff.

The same Emergency Department (ED) data are stripped of identifiers and transmitted via Rhapsody to the CDC for the BioSense application. BioSense is web-based software developed by CDC for syndromic surveillance. Unlike ESSENCE, BioSense also includes data from Veterans Administration hospitals. Over the counter drug sales and LabCorp testing results are also available through the BioSense system. ESSENCE and BioSense each have the ability to track influenza-like illness chief complaints in real time for ongoing surveillance any time of the year. Missouri ESSENCE ILI data are included in the weekly influenza surveillance reports produced by the influenza program at the DHSS Bureau of Communicable Disease Control and Prevention. ILI surveillance reports can also be customized for specific areas, age groups, and situations using ESSENCE. For example, the St. Louis County Health Department produces its own weekly ILI report and includes ESSENCE findings for just St. Louis area patients along with other data unique to that area. Similar tracking is possible at the national level using data from Missouri and other jurisdictions that participate in BioSense. BioSense has an influenza module which is available during influenza season for more detailed tracking of ILI.

Virologic surveillance

The SPHL reports to CDC weekly throughout the year. Data reported are the number of respiratory specimens tested and the number positive for influenza by type, and also subtype. The percentage of specimens that are positive is also calculated. The SPHL sends a subset of virus isolates to CDC each season for further analysis and characterization. In addition to providing information on when and where influenza activity is occurring, the data also identify which viruses are circulating.

Mortality surveillance

- Missouri participates in 122 Cities Mortality Reporting System. Vital statistics offices in 122 U.S. cities report pneumonia and influenza (P&I)-related deaths on a weekly basis. Kansas City, MO and St. Louis, MO are part of this system.
- DHSS participates in National Notifiable Disease Surveillance System (NNDSS). State health departments report influenza-associated pediatric deaths, as noted under Section 2 above, to CDC on a weekly basis.
-

Local Active Surveillance System (LASS)

- LPHAs recruit a number of surveillance sites within their jurisdiction and then contact them each week to receive surveillance information.
- Number and type of sites is chosen by the LPHA to reflect the general population of their jurisdiction.
- Data is kept at the local level and analysis is done there. It is not routinely shared across jurisdictions, except in instances where regional (contract) epidemiologists collect it from all of the LPHAs in their area.
- The format and type of data collected is determined by each individual LPHA, except where standardized by a regional (contract) epidemiologist.

State-Level Assessments

State Epidemiologist provides weekly reports to the CDC on the overall influenza activity according to following levels:

Activity Level	ILI activity/Outbreaks		Laboratory data
No activity	Low	**And**	No lab-confirmed cases
Sporadic	Not increased	**And**	Isolated lab-confirmed cases
	OR		
	Not increased	**And**	Lab-confirmed outbreak in one institution
Local	Increased ILI in one region; ILI activity in other regions is not increased	**And**	Recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI
	OR		
	2 or more institutional outbreaks (ILI or lab- confirmed) in one region; ILI activity in other regions is not increased	**And**	Recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions
Regional	Increased ILI in ≥ two but less than half of the regions	**And**	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
	Institutional outbreaks (ILI or lab confirmed) in ≥ two and less than half of the regions	**And**	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
Widespread	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions	**And**	Recent (within the past 3 weeks) lab confirmed influenza in the state.

During influenza season, providing an exact case count or population-based rates of infection or illness are not feasible because many infected persons are asymptomatic or experience only mild illness and do not seek medical care. In those who present to the health care system, laboratory testing is rare if cases are less severe. Despite limitations, weekly data on outpatient visits for ILI,

hospitalizations, and deaths allow Missouri DHSS to monitor regional disease trends and to compare the timing and intensity of the current season to that of previous seasons.

Cooperative Zoonotic Surveillance

A zoonotic influenza subcommittee was established to ensure coordination among the Missouri Departments of Agriculture, Health and Senior Services, Conservation, and Natural Resources, as well as among other state partners, federal animal health agencies (United States Departments of Agriculture [USDA] and Interior [USDI]), and associated industries. This subcommittee provides an integrated response to cases or outbreaks of highly pathogenic avian influenza (or low pathogenic avian influenza of zoonotic concern) in poultry, waterfowl, swine or other animals, thereby protecting human life and reducing the social, economic, and mental health impact on Missouri's citizens and communities.

Wild Bird Surveillance

The Missouri Departments of Conservation and Agriculture in collaboration with the USDA/Animal and Plant Health Inspection Service (APHIS)/Wildlife Services conduct surveillance for avian influenza in wild birds in accordance with the U.S. Interagency Strategic Plan: An Early Detection System for Highly Pathogenic H5N1 Avian Influenza in Wild Migratory Birds. A copy of the plan along with other information related to avian influenza may be found at the following site: U.S. Geologic Survey, National Wildlife Health Center, http://www.nwhc.usgs.gov/disease_information/avian_influenza. In 2010, a total of 565 specimens were submitted from Missouri (70 live bird specimens, 494 hunter-killed specimens, 1 sick/dead bird specimen). No specimens to date from anywhere in the U.S. have tested positive for Asian highly pathogenic H5N1 influenza virus. Results of the national testing program are available in the Highly Pathogenic Avian Influenza Early Detection Data System (HEDDS), which is found at http://wildlifedisease.nbii.gov/ai.

Domestic Bird Surveillance

The Missouri Department of Agriculture and USDA/APHIS/Veterinary Services collaborate with the Missouri poultry industry to routinely test domestic poultry and to increase surveillance/testing during crises. Information pertaining to these programs is included in the Missouri Poultry Health and Improvement Plan at http://mda.mo.gov/animals/health/disease/poultry.php .

An agreement is in place to share detections produced by this surveillance with DHSS through the Office of Veterinary Public Health.

For more information regarding zoonotic influenza surveillance, prevention, and response, contact the Office of Veterinary Public Health, 573-526-4780.

Influenza surveillance coordinator
The Missouri DHSS has a full-time dedicated influenza surveillance coordinator. The roles of the influenza coordinator include:

- Oversee all state influenza surveillance activities.
- Maintain and expand influenza Sentinel Provider Network (SPN).
- Analyze year-round influenza surveillance.
- Maintain working relationships with the state public health laboratory and the CDC Influenza Branch.

INFLUENZA SURVEILLANCE DURING THE PANDEMIC PERIOD

Surveillance activities will be modified as pre-pandemic period transitions into the period of increased pandemic risk, and eventually to the pandemic period. Following is a list of enhanced influenza surveillance activities that could be initiated as needed throughout the evolving pandemic.

Enhanced Surveillance for Novel Influenza
Once a novel influenza virus with documented human cases are detected anywhere in the world, enhanced surveillance to ensure rapid recognition of the first cases and their contacts will be implemented. Specific recommendations regarding identification, treatment and public health control measures will depend on the epidemiology of the virus, clinical characteristics and location of cases inside U.S., or outside U.S., or in Missouri.

Outpatient Surveillance

- Implement provider novel influenza case reporting as necessary prior to the novel influenza strain being identified in Missouri.
- Cases and/or clusters to be investigated in order to determine attack rate and case fatality rate.
- Providers may be asked to report cases of pandemic influenza with an unusual clinical presentation and severity.
- Once in the pandemic period, it is not expected that provider individual case reporting will be a primary method for surveillance.
- Recruit additional sentinel surveillance providers, as either permanent participating providers or for short-term reporting on an as-needed basis.
- Expand ILI surveillance beyond typical seasonal influenza season.
- Analyze outpatient surveillance data daily.
- Increase the frequency of analysis of ESSENCE and other syndromic surveillance data.

Healthcare Facility Surveillance

- State and/or local health department staff will participate in CDC hospitalization surveillance initiatives, which may include specimen collection, virologic testing from a subset of patients, or clinico-epidemiological study of pandemic influenza.
- Consider statewide influenza hospitalization data reporting to determine hospitalization rate, case fatality rate, and other aspects of novel and pandemic influenza illness. Alternatively, consider sentinel hospitalization data from selected health care facilities

if statewide reporting isn't feasible. Data collected and frequency of reporting can be adjusted as indicated to monitor the pandemic and ensure recommended surveillance and control measures are appropriate. It is anticipated that during widespread pandemic influenza activity, hospitalization data will be the primary surveillance method used to assess severity of illness.

- Consider expanding laboratory-confirmed influenza reporting by requiring laboratory testing of certain groups, such as all hospitalized patients, or all patients admitted to intensive care units, etc.

State-Level Assessments

- State Epidemiologists Report. Current influenza activity level throughout the state will continue to be assessed weekly but reported to the CDC year-round.
- Participate in national and international surveillance activities as indicated.

Mortality Surveillance

- Expand reporting of influenza-associated deaths beyond the pediatric age group as needed based on the analysis of the current epidemiologic data and/or CDC case definitions.
- Implement a reporting system for hospitals and nursing homes to report daily aggregate data on the number of suspected and confirmed influenza associated deaths and total number of deaths. It is anticipated that this electronic reporting system will be the primary method to collect daily data necessary to monitor the mortality of the pandemic.
- The Missouri DHSS has converted from a paper-based to an electronic death certificate reporting system. The new system will allow reporting of any death with influenza or pneumonia listed as the underlying or contributing cause of death within one to two days of date of death.
- Provide mortality and case fatality rate data to CDC as needed to help guide national response measures. Case definitions and reporting procedures will be coordinated with the CDC.

Virologic Surveillance

- Increase number of specimens submitted for testing to the SPHL.
- Provide testing beyond the influenza season, based on the actual or projected arrival of the pandemic virus in Missouri.

PANDEMIC RESPONSE LEVEL

When pandemic influenza is identified in the World, but not yet in the United States

- Using statewide and local Health Alert Networks (HANs) and the EMSystem, mandated disease reporters (providers, laboratories and hospitals) will be notified of the current situation. They will be reminded of the necessity for rapid testing and the need for accurate and rapid case reporting. Novel strains of influenza with pandemic potential should be reported immediately as defined by the reportable disease rule. Disease reporters will also be reminded of the limitations of rapid testing and that positives should be confirmed by advanced testing, such as polymerase chain reaction (PCR), whenever possible, especially as early cases in their geographical area are identified. Virus cultures should **not** be attempted from patients suspected of having pandemic influenza.

- Providers who are members of the sentinel surveillance system will be additionally asked to submit specimens on any cases that are of epidemiological interest, defined as those persons who recently traveled to regions where the pandemic strain of influenza is circulating or those with unusual and/or severe symptoms.
- Supplementary sentinel sites will be identified and readied for use when/if the pandemic reaches the Western Hemisphere.
- Guidelines for reporting detailed, supplementary information (above and beyond the information required by 19 CSR 20-20.020) will be distributed to all mandated disease reporters as part of the Health Alert. This change in reporting requirements can be made by the Director of the Missouri Department of Health and Senior Services (DHSS) or their designee. Copies of the Pandemic Influenza Case Report form (Attachment A) will be included in the Health Alert and downloadable copies will be posted on the Missouri Department of Health and Senior Services (DHSS) web site.
- Reporting requirements can be tailored to CDC requests for specific information and will be submitted daily via National Electronic Communications System for Surveillance (NETSS), or as otherwise requested by CDC.

When pandemic influenza is identified in the United States (or anywhere in the Western Hemisphere)

- Local public health agencies (LPHAs), hospitals, medical examiners and other vital stakeholders will be notified of the current situation via the HAN. The information will be duplicated on the DHSS web site and linked with prominent links on the first page. Additionally, the internal list server will be used to rapidly communicate information that is targeted specifically to the disease investigation staff in DHSS and LPHAs across the state.
- Mandated disease reporters (providers, laboratories and hospitals) will be notified of the current situation using statewide and local HANs and duplicated on the DHSS web site. They will be advised of the change in the reporting status for all types of influenza from weekly, aggregate reporting to immediate, detailed reporting of all diagnosed or suspected cases. They will be reminded of the necessity for rapid testing, and the need for accurate and rapid case reporting of this immediately reportable condition. They will also be reminded of the limitations of rapid testing and that positives should be confirmed by PCR, especially as early cases in their geographical area are identified. The Laboratory Preparedness Annex contains specific information regarding the submission of laboratory specimens. Virus cultures should **not** be attempted from patients suspected of having pandemic influenza.
- Providers who are members of the sentinel surveillance system will be asked to submit specimens on any cases that are of epidemiological interest, defined as those persons who recently traveled to regions where the pandemic strain of influenza is known to be circulating or those with unusual and/or severe symptoms.
- Supplementary sentinel sites will be activated.
- Existing surveillance systems will be analyzed at increased frequency.
- Electronic vital records submissions will be analyzed for the number and location of pneumonia and influenza (P & I) related deaths.
- Active systems will be supplemented, if needed, by adding additional sites. Local Active Surveillance System (LASS) information will be consolidated by regional epidemiologists and forwarded to DHSS Senior Epidemiology Specialists, or their designees. That data will be

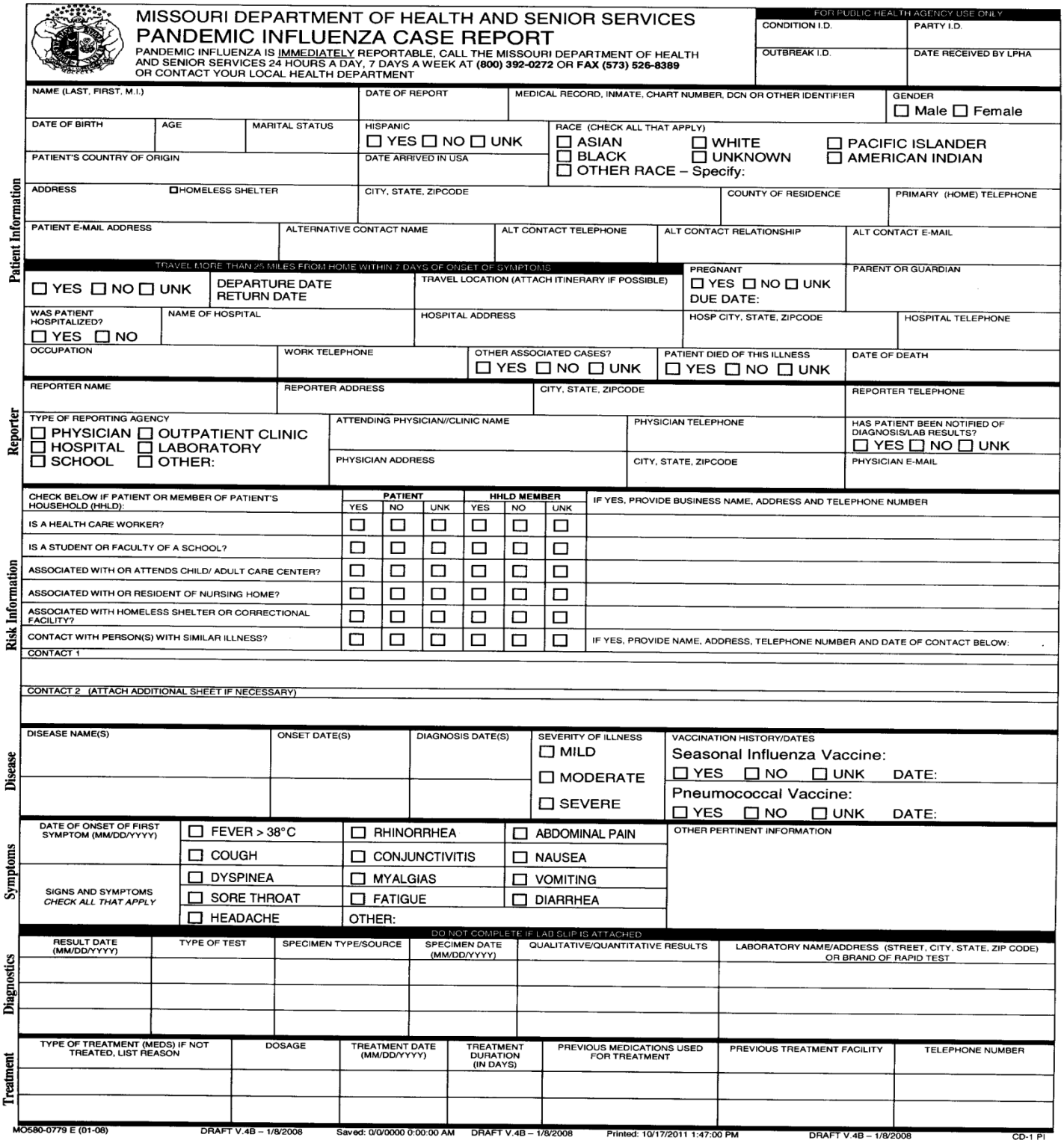
consolidated and forwarded, if the DHSS Health and Medical Emergency Response Department Situation Room (DSR) is activated, to the Field Investigations/Surveillance lead in the DSR, otherwise, to the Chief, Bureau of Communicable Disease Control and Prevention.
  - LPHAs and their active surveillance sites will be reminded of the surveillance definition for influenza like illness (ILI). For the purposes of enhanced surveillance for influenza infections in humans ILI is defined as documented fever >100.4°F (38.0°C) **and** cough, sore throat or shortness of breath.
  - LASS information will also be expanded on an as needed basis, perhaps to sentinel hospitals, to include numbers of persons hospitalized with ILI or pandemic influenza, the number of hospitals with ILI/pandemic influenza patients, the number of those isolated or quarantined, and the number of deaths associated with ILI/pandemic influenza.
  - Statewide electronic death reporting system data will be evaluated on a regular basis for influenza deaths in the state.
- LPHAs will be provided with a standardized active surveillance spreadsheet upon which to aggregate their data for submission. This will facilitate aggregation of the data on a regional and statewide basis.
- If needed, a regional and local reporting system may be established to facilitate the flow of information to the DSR.

When pandemic influenza is identified in Missouri

- The first reported case(s) will be investigated immediately by LPHA disease investigation staff to learn the details and extent of the case(s). DHSS disease control staff will be available to support LPHA disease investigation staff during those first investigations. If necessary an Incident Command System (ICS) structure will be established.
- Continue case-specific (passive) and active surveillance as above until the occurrence of pandemic influenza is quantified as regional, based on the adaptation of the CDC guidelines for influenza activity as above.
- The Bureau of Communicable Disease Control and Prevention and the Office of Epidemiology will use collected data to make an estimate of the progress of the disease, and make recommendations based on that information. Those activities may include, but are not limited to:
  - Making recommendations regarding local isolation, quarantine or other prevention/intervention activities.
  - Monitoring for antiviral resistance.
  - Monitoring for adverse vaccine reactions.
  - Analyzing case fatality rates, age groups affected and novel means of transmission.
  - Monitoring and instituting recommendations from CDC for any additional surveillance activities that should be undertaken given the specific circumstances.
  - Preparing reports for the Incident Commander as needed.
- As the extent of pandemic influenza increases from local to regional, surveillance activities should include monitoring the health care system for ability to cope with increased patient loads.
- Monitor the EMSystem for indications of shortages and diversions in particular facilities or regions.

- Work with Missouri Hospital Association and other entities to identify and quantify local or regional shortages.
- Use the collected information to recommend redeployment of available resources to areas of greatest need.

Missouri Pandemic Influenza Case Report Form



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES
PANDEMIC INFLUENZA CASE REPORT
PANDEMIC INFLUENZA IS IMMEDIATELY REPORTABLE, CALL THE MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES 24 HOURS A DAY, 7 DAYS A WEEK AT (800) 392-0272 OR FAX (573) 526-8389 OR CONTACT YOUR LOCAL HEALTH DEPARTMENT

FOR PUBLIC HEALTH AGENCY USE ONLY
CONDITION I.D. | PARTY I.D.
OUTBREAK I.D. | DATE RECEIVED BY LPHA

Patient Information

NAME (LAST, FIRST, M.I.) | DATE OF REPORT | MEDICAL RECORD, INMATE, CHART NUMBER, DCN OR OTHER IDENTIFIER | GENDER ☐ Male ☐ Female
DATE OF BIRTH | AGE | MARITAL STATUS | HISPANIC ☐ YES ☐ NO ☐ UNK | RACE (CHECK ALL THAT APPLY) ☐ ASIAN ☐ WHITE ☐ PACIFIC ISLANDER ☐ BLACK ☐ UNKNOWN ☐ AMERICAN INDIAN ☐ OTHER RACE – Specify:
PATIENT'S COUNTRY OF ORIGIN | DATE ARRIVED IN USA
ADDRESS ☐HOMELESS SHELTER | CITY, STATE, ZIPCODE | COUNTY OF RESIDENCE | PRIMARY (HOME) TELEPHONE
PATIENT E-MAIL ADDRESS | ALTERNATIVE CONTACT NAME | ALT CONTACT TELEPHONE | ALT CONTACT RELATIONSHIP | ALT CONTACT E-MAIL

TRAVEL MORE THAN 25 MILES FROM HOME WITHIN 7 DAYS OF ONSET OF SYMPTOMS
☐ YES ☐ NO ☐ UNK | DEPARTURE DATE / RETURN DATE | TRAVEL LOCATION (ATTACH ITINERARY IF POSSIBLE) | PREGNANT ☐ YES ☐ NO ☐ UNK DUE DATE: | PARENT OR GUARDIAN
WAS PATIENT HOSPITALIZED? ☐ YES ☐ NO | NAME OF HOSPITAL | HOSPITAL ADDRESS | HOSP CITY, STATE, ZIPCODE | HOSPITAL TELEPHONE
OCCUPATION | WORK TELEPHONE | OTHER ASSOCIATED CASES? ☐ YES ☐ NO ☐ UNK | PATIENT DIED OF THIS ILLNESS ☐ YES ☐ NO ☐ UNK | DATE OF DEATH

Reporter

REPORTER NAME | REPORTER ADDRESS | CITY, STATE, ZIPCODE | REPORTER TELEPHONE
TYPE OF REPORTING AGENCY ☐ PHYSICIAN ☐ OUTPATIENT CLINIC ☐ HOSPITAL ☐ LABORATORY ☐ SCHOOL ☐ OTHER: | ATTENDING PHYSICIAN//CLINIC NAME | PHYSICIAN TELEPHONE | HAS PATIENT BEEN NOTIFIED OF DIAGNOSIS/LAB RESULTS? ☐ YES ☐ NO ☐ UNK
PHYSICIAN ADDRESS | CITY, STATE, ZIPCODE | PHYSICIAN E-MAIL

Risk Information

CHECK BELOW IF PATIENT OR MEMBER OF PATIENT'S HOUSEHOLD (HHLD):	PATIENT YES	PATIENT NO	PATIENT UNK	HHLD MEMBER YES	HHLD MEMBER NO	HHLD MEMBER UNK	IF YES, PROVIDE BUSINESS NAME, ADDRESS AND TELEPHONE NUMBER
IS A HEALTH CARE WORKER?	☐	☐	☐	☐	☐	☐	
IS A STUDENT OR FACULTY OF A SCHOOL?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH OR ATTENDS CHILD/ ADULT CARE CENTER?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH OR RESIDENT OF NURSING HOME?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH HOMELESS SHELTER OR CORRECTIONAL FACILITY?	☐	☐	☐	☐	☐	☐	
CONTACT WITH PERSON(S) WITH SIMILAR ILLNESS?	☐	☐	☐	☐	☐	☐	IF YES, PROVIDE NAME, ADDRESS, TELEPHONE NUMBER AND DATE OF CONTACT BELOW:

CONTACT 1
CONTACT 2 (ATTACH ADDITIONAL SHEET IF NECESSARY)

Disease

DISEASE NAME(S) | ONSET DATE(S) | DIAGNOSIS DATE(S) | SEVERITY OF ILLNESS ☐ MILD ☐ MODERATE ☐ SEVERE | VACCINATION HISTORY/DATES Seasonal Influenza Vaccine: ☐ YES ☐ NO ☐ UNK DATE: Pneumococcal Vaccine: ☐ YES ☐ NO ☐ UNK DATE:

Symptoms

DATE OF ONSET OF FIRST SYMPTOM (MM/DD/YYYY)

SIGNS AND SYMPTOMS *CHECK ALL THAT APPLY*

☐ FEVER > 38°C	☐ RHINORRHEA	☐ ABDOMINAL PAIN
☐ COUGH	☐ CONJUNCTIVITIS	☐ NAUSEA
☐ DYSPINEA	☐ MYALGIAS	☐ VOMITING
☐ SORE THROAT	☐ FATIGUE	☐ DIARRHEA
☐ HEADACHE	OTHER:	

OTHER PERTINENT INFORMATION

Diagnostics

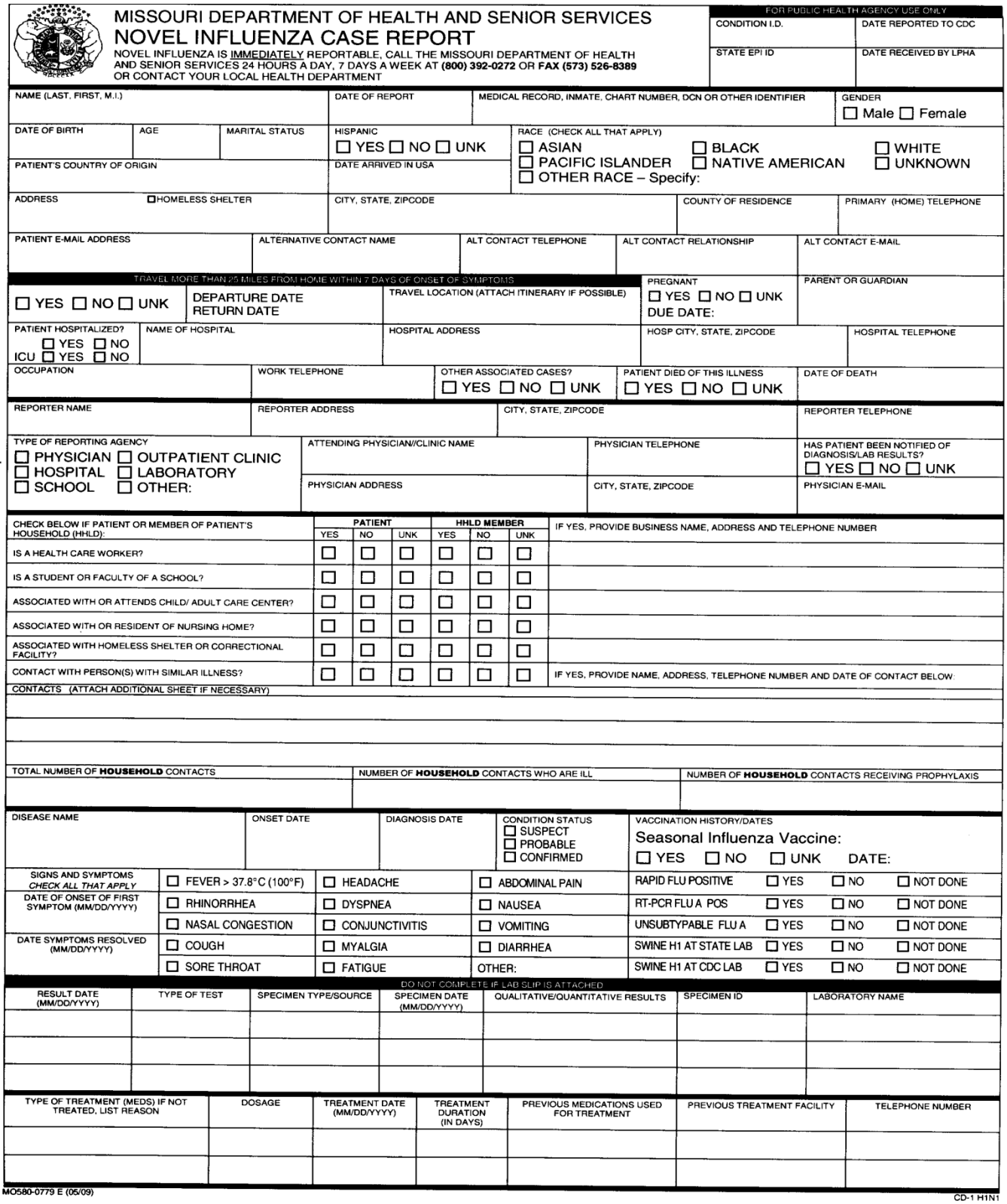
DO NOT COMPLETE IF LAB SLIP IS ATTACHED

RESULT DATE (MM/DD/YYYY)	TYPE OF TEST	SPECIMEN TYPE/SOURCE	SPECIMEN DATE (MM/DD/YYYY)	QUALITATIVE/QUANTITATIVE RESULTS	LABORATORY NAME/ADDRESS (STREET, CITY, STATE, ZIP CODE) OR BRAND OF RAPID TEST

Treatment

TYPE OF TREATMENT (MEDS) IF NOT TREATED, LIST REASON	DOSAGE	TREATMENT DATE (MM/DD/YYYY)	TREATMENT DURATION (IN DAYS)	PREVIOUS MEDICATIONS USED FOR TREATMENT	PREVIOUS TREATMENT FACILITY	TELEPHONE NUMBER

MO580-0779 E (01-08) DRAFT V.4B – 1/8/2008 Saved: 0/0/0000 0:00:00 AM DRAFT V.4B – 1/8/2008 Printed: 10/17/2011 1:47:00 PM DRAFT V.4B – 1/8/2008 CD-1 PI



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES
NOVEL INFLUENZA CASE REPORT
NOVEL INFLUENZA IS IMMEDIATELY REPORTABLE, CALL THE MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES 24 HOURS A DAY, 7 DAYS A WEEK AT **(800) 392-0272** OR **FAX (573) 526-8389** OR CONTACT YOUR LOCAL HEALTH DEPARTMENT

FOR PUBLIC HEALTH AGENCY USE ONLY
CONDITION I.D. | DATE REPORTED TO CDC
STATE EPI ID | DATE RECEIVED BY LPHA

Patient Information

NAME (LAST, FIRST, M.I.) | DATE OF REPORT | MEDICAL RECORD, INMATE, CHART NUMBER, DCN OR OTHER IDENTIFIER | GENDER ☐ Male ☐ Female

DATE OF BIRTH | AGE | MARITAL STATUS | HISPANIC ☐ YES ☐ NO ☐ UNK | RACE (CHECK ALL THAT APPLY) ☐ ASIAN ☐ BLACK ☐ WHITE ☐ PACIFIC ISLANDER ☐ NATIVE AMERICAN ☐ UNKNOWN ☐ OTHER RACE – Specify:

PATIENT'S COUNTRY OF ORIGIN | DATE ARRIVED IN USA

ADDRESS ☐HOMELESS SHELTER | CITY, STATE, ZIPCODE | COUNTY OF RESIDENCE | PRIMARY (HOME) TELEPHONE

PATIENT E-MAIL ADDRESS | ALTERNATIVE CONTACT NAME | ALT CONTACT TELEPHONE | ALT CONTACT RELATIONSHIP | ALT CONTACT E-MAIL

TRAVEL MORE THAN 25 MILES FROM HOME WITHIN 7 DAYS OF ONSET OF SYMPTOMS
☐ YES ☐ NO ☐ UNK | DEPARTURE DATE / RETURN DATE | TRAVEL LOCATION (ATTACH ITINERARY IF POSSIBLE)

PREGNANT ☐ YES ☐ NO ☐ UNK DUE DATE: | PARENT OR GUARDIAN

PATIENT HOSPITALIZED? ☐ YES ☐ NO ICU ☐ YES ☐ NO | NAME OF HOSPITAL | HOSPITAL ADDRESS | HOSP CITY, STATE, ZIPCODE | HOSPITAL TELEPHONE

OCCUPATION | WORK TELEPHONE | OTHER ASSOCIATED CASES? ☐ YES ☐ NO ☐ UNK | PATIENT DIED OF THIS ILLNESS ☐ YES ☐ NO ☐ UNK | DATE OF DEATH

Reporter

REPORTER NAME | REPORTER ADDRESS | CITY, STATE, ZIPCODE | REPORTER TELEPHONE

TYPE OF REPORTING AGENCY ☐ PHYSICIAN ☐ OUTPATIENT CLINIC ☐ HOSPITAL ☐ LABORATORY ☐ SCHOOL ☐ OTHER: | ATTENDING PHYSICIAN//CLINIC NAME | PHYSICIAN TELEPHONE | HAS PATIENT BEEN NOTIFIED OF DIAGNOSIS/LAB RESULTS? ☐ YES ☐ NO ☐ UNK

PHYSICIAN ADDRESS | CITY, STATE, ZIPCODE | PHYSICIAN E-MAIL

Risk Information

CHECK BELOW IF PATIENT OR MEMBER OF PATIENT'S HOUSEHOLD (HHLD):	PATIENT YES	PATIENT NO	PATIENT UNK	HHLD MEMBER YES	HHLD MEMBER NO	HHLD MEMBER UNK	IF YES, PROVIDE BUSINESS NAME, ADDRESS AND TELEPHONE NUMBER
IS A HEALTH CARE WORKER?	☐	☐	☐	☐	☐	☐	
IS A STUDENT OR FACULTY OF A SCHOOL?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH OR ATTENDS CHILD/ ADULT CARE CENTER?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH OR RESIDENT OF NURSING HOME?	☐	☐	☐	☐	☐	☐	
ASSOCIATED WITH HOMELESS SHELTER OR CORRECTIONAL FACILITY?	☐	☐	☐	☐	☐	☐	
CONTACT WITH PERSON(S) WITH SIMILAR ILLNESS?	☐	☐	☐	☐	☐	☐	IF YES, PROVIDE NAME, ADDRESS, TELEPHONE NUMBER AND DATE OF CONTACT BELOW

CONTACTS (ATTACH ADDITIONAL SHEET IF NECESSARY)

TOTAL NUMBER OF **HOUSEHOLD** CONTACTS | NUMBER OF **HOUSEHOLD** CONTACTS WHO ARE ILL | NUMBER OF **HOUSEHOLD** CONTACTS RECEIVING PROPHYLAXIS

Disease

DISEASE NAME | ONSET DATE | DIAGNOSIS DATE | CONDITION STATUS ☐ SUSPECT ☐ PROBABLE ☐ CONFIRMED | VACCINATION HISTORY/DATES Seasonal Influenza Vaccine: ☐ YES ☐ NO ☐ UNK DATE:

Symptoms

SIGNS AND SYMPTOMS *CHECK ALL THAT APPLY*
DATE OF ONSET OF FIRST SYMPTOM (MM/DD/YYYY)
DATE SYMPTOMS RESOLVED (MM/DD/YYYY)

☐ FEVER > 37.8°C (100°F)	☐ HEADACHE	☐ ABDOMINAL PAIN
☐ RHINORRHEA	☐ DYSPNEA	☐ NAUSEA
☐ NASAL CONGESTION	☐ CONJUNCTIVITIS	☐ VOMITING
☐ COUGH	☐ MYALGIA	☐ DIARRHEA
☐ SORE THROAT	☐ FATIGUE	OTHER:

RAPID FLU POSITIVE	☐ YES	☐ NO	☐ NOT DONE
RT-PCR FLU A POS	☐ YES	☐ NO	☐ NOT DONE
UNSUBTYPABLE FLU A	☐ YES	☐ NO	☐ NOT DONE
SWINE H1 AT STATE LAB	☐ YES	☐ NO	☐ NOT DONE
SWINE H1 AT CDC LAB	☐ YES	☐ NO	☐ NOT DONE

Diagnostics

DO NOT COMPLETE IF LAB SLIP IS ATTACHED

RESULT DATE (MM/DD/YYYY)	TYPE OF TEST	SPECIMEN TYPE/SOURCE	SPECIMEN DATE (MM/DD/YYYY)	QUALITATIVE/QUANTITATIVE RESULTS	SPECIMEN ID	LABORATORY NAME

Treatment

TYPE OF TREATMENT (MEDS) IF NOT TREATED, LIST REASON	DOSAGE	TREATMENT DATE (MM/DD/YYYY)	TREATMENT DURATION (IN DAYS)	PREVIOUS MEDICATIONS USED FOR TREATMENT	PREVIOUS TREATMENT FACILITY	TELEPHONE NUMBER

MO580-0779 E (05/09) CD-1 H1N1

Pandemic Influenza Plan – Laboratory Preparedness

For more information contact Mary Menges at Mary.Menges@health.mo.gov or 573-751-3334

INTRODUCTION

A well-organized network of laboratories, capable of rapidly and correctly identifying and subtyping influenza viruses is critical to recognizing and managing an influenza pandemic. Recognition of novel strains of influenza virus will be dependent upon early detection and sampling of initial clinical cases associated with the pandemic. Since the symptoms of influenza are nonspecific and are similar to those caused by a number of respiratory pathogens, laboratory testing is crucial to identify the causative agent as a form of the influenza virus. It is essential that the Missouri State Public Health Laboratory (MSPHL) be prepared for the emergence of novel influenza strains and influenza pandemic.

OBJECTIVES

- Provide laboratory resources for rapid detection of novel human or animal influenza viruses.
- Monitor changes in the circulating viruses during the pandemic.
- Monitor development of antiviral resistance in novel influenza virus.

BACKGROUND

The MSPHL is a collaborating laboratory in the World Health Organization's Global Influenza Surveillance Network. Year-round respiratory specimens from designated sentinel laboratories are sent to the MSPHL where they are tested by viral culture and polymerase chain reaction (PCR). The resulting positive influenza A specimens are then supbtyped by PCR and viral culture. A representative number of influenza A and B isolates from viral culture are then forwarded to Centers for Disease Control and Prevention (CDC) for further antigenic characterization. In addition, a representative number of samples subtyped as 2009 Influenza A H1N1 pdm are sent to CDC for antiviral resistance testing. All specimens that cannot be subtyped and a subset of samples from vaccine failures are forwarded to CDC for further testing. Daily reports of laboratory-confirmed cases of Influenza A and B viruses, are sent by HL7 messaging to CDC via the Public Health Laboratory Interoperability Project (PHLIP).

The MSPHL maintains a fully trained technical virology staff. In the summer of 2007, MSPHL moved into a new state-of-the-art facility that contains an extensive biosafety level 3 (BSL-3) laboratory. Additional scientists have been trained in the CDC PCR testing methods to provide back-up and support during a pandemic or public health emergency. The MSPHL participates in year-round laboratory-based surveillance via the National Respiratory and Enteric Virus Surveillance System (NREVSS). The MSPHL continues the Sentinel Surveillance Program with providers participating in the CDC Influenza Sentinel Provider Network. Providers send up to nine specimens per season October through May and/or if the providers see any unusual influenza activity.

Trainings and exercises are part of the preparedness activities that MSPHL participates in throughout the year. The MSPHL exercises the laboratory influenza-testing plan by maintaining scientist's competencies in polymerase chain reaction (PCR) testing and maintains Clinical Laboratory Improvement Amendments (CLIA) certification.

The Missouri Department of Health and Senior Services' (DHSS) MSPHL, Bureau of Communicable Disease Control and Prevention and Bureau of Immunization Assessment and Assurance in cooperation with local public health agencies (LPHAs) perform year round, outbreak and seasonal influenza surveillance. In support of this influenza surveillance, MSPHL and program staff conduct training sessions at DHSS area or district health offices. Such training provides hands on opportunities for health care professionals to ask questions and gain knowledge on issues related to seasonal, avian and pandemic influenza, data collection and interpretation, laboratory testing issues, and vaccinations. These trainings serve as an opportunity to review packaging and shipping protocols, review protocols for safe specimen collection and testing procedures utilized by the MSPHL, reporting mechanisms and responsibilities.

MSPHL in cooperation with the Council of State and Territorial Epidemiologists (CSTE) and other DHSS staff conducted six training exercises throughout the state of Missouri. Specialists in epidemiology, emerging diseases, laboratory and veterinary public health attended these training exercises. Participants learned to recognize and manage a human case of Highly Pathogenic Avian Influenza (HPAI), comprehend laboratory diagnosis and specimen collection, and review the investigation process of a possible human-to-human HPAI transmission. Finally, those attending the trainings participated in an exercise and case study to allow participants to walk through an investigation and response to HPAI detection among poultry.

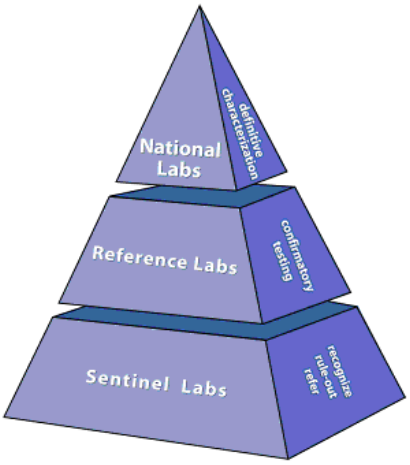
Other aspects of the Laboratory Pandemic Plan are exercised while participating in DHSS Disaster Situation Room (DSR) drills that are held annually.

PLANNING ASSUMPTIONS

- As a member of the Association of Public Health Laboratories, the MSPHL will utilize laboratory tests and methods recommended by the CDC in cooperation with the Association of Public Health Laboratories (APHL). The MSPHL will utilize all testing algorithms as disseminated by the APHL and CDC.
- MSPHL will continue to conduct year-round testing for influenza viruses in order to characterize circulating influenza strains and to monitor for novel influenza subtypes.
- MSPHL will provide advanced testing, utilizing laboratory tests and reagents supplied by the CDC and World Health Organization. These testing procedures are not available to most clinical laboratories.
- During influenza pandemic, the MSPHL will work with CDC to provide guidelines for specimen management and diagnostic testing as the pandemic evolves.
- MSPHL will maintain testing supplies and the capacity to meet the public health surveillance needs of the state. MSPHL will not accept specimens solely for diagnostic purposes. MSPHL will process only specimens of public health significance.
- MSPHL scientists are cross-trained in an effort to assist with testing of greatest need. There is an acknowledgement that certain testing may be delayed or redistributed to other laboratories in order to meet more pressing or other critical testing demands. The laboratory has worked with program staff to develop plans for specimen referral and triage.

- MSPHL will utilize the Missouri Laboratory Response Network (MOLRN) to contact member laboratories throughout the state with up-to-date testing recommendations and information.
- The Midwest Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research will be a resource for laboratory surge capacity.
- The pandemic intervals will determine testing strategies and testing algorithms. Highest test load is expected to occur during the early stages when the novel virus demonstrates efficient human-to-human transmission. During the peak of pandemic, laboratory testing is expected to decrease as more patients will be treated without laboratory confirmation. During the pandemic peak, testing will be provided for the purpose of surveillance of the pandemic strain and for antiviral resistance. Once the cases begin to decline, the MSPHL will continue testing for surveillance of the pandemic strain as well as other circulating influenza viruses.

LABORATORY RESPONSE NETWORK (LRN)



The LRN became operational in August 1999 with the objective to ensure an effective laboratory response to bioterrorism. The LRN is an integrated network of local clinical laboratories (sentinel labs), state and local public health laboratories (reference labs) and federal laboratories (CDC, The United States Army Medical Research Institute for Infectious Diseases, Food and Drug Administration). MOLRN is a network of Missouri laboratories that are fully equipped and trained to respond quickly to acts of chemical or biological terrorism, emerging infectious diseases and other public health threats and emergencies. MOLRN includes MSPHL, which serves as Missouri's LRN reference laboratory, plus sentinel laboratories within the state. See http://www.bt.cdc.gov/lrn/biological.asp.

SENTINEL LABORATORIES

According to the 2010 MOLRN survey of sentinel laboratories within Missouri, 83% perform rapid diagnostic testing for influenza viruses on respiratory specimens. Of these, 11% have the capability to perform high-complexity viral testing, including the use of viral isolation techniques. In addition, 8% of Missouri's sentinel laboratories are capable of performing PCR or immuno-fluorescence (IF) testing for rapid detection and sub-typing. These laboratories could be utilized for surge capacity should the situation warrant the need. *Hospital laboratories should not attempt to isolate influenza viruses from patients with suspected novel influenza virus infections.*

MISSOURI STATE PUBLIC HEALTH LABORATORY TESTING CAPABILITIES

The MSPHL receives samples for testing for respiratory viruses from multiple sources:

- Sentinel influenza surveillance sites.
- Respiratory outbreak investigations.
- Suspected cases of novel influenza virus, including avian flu.
- As a reference laboratory, MSPHL receives influenza isolates from commercial and hospital laboratories.

The MSPHL performs several different tests for influenza diagnosis:

- RT-PCR: The MSPHL performs the CDC FDA-approved influenza assays for detection of influenza A and B viruses. This test detects all influenza A viruses, including A/H5N1.
- Specimens positive for influenza A are subtyped for human seasonal H1 and H3 viruses.
- Tissue Culture: Some specimens are inoculated into tissue culture tubes for confirmatory testing by culture as needed. Results are available within 2 to 14 days. The subtyping results are available within 10 to 21 days.
- Antiviral Resistance: Select portion of influenza A positive samples is tested for the markers of antiviral resistance. The MSPHL has acquired instrumentation and protocols to perform antiviral resistance testing.

If the sample is from a patient who meets the criteria for a suspected case of highly pathogenic avian influenza virus, only RT-PCR testing is performed. The sample is not inoculated into tissue culture, where the virus would be amplified. If these test results suggest the presence of a novel influenza virus, the sample is sent to the CDC for confirmatory testing.

It should be understood that the laboratory procedures used for testing may change depending on the characteristics of the pandemic strain.

- MSPHL maintains year-round capability to perform real time polymerase chain reaction (RT-PCR) testing for influenza A and B viruses using CDC FDA-approved RT-PCR assays. These assays will detect influenza A and B virus and include assays to subtype currently-circulating human influenza A viruses, including highly-pathogenic influenza A/H5N1.
- MSPHL maintains testing capacity for outbreak investigations, reference testing as well as testing as for other novel influenza viruses.
- MSPHL continues to participate in a specimen exchange program with the Kansas State Public Health Laboratory and the Wadsworth Center in New York, the College of American Pathologists (CAP) proficiency-testing program and the CAP bioterrorism proficiency testing program and will maintain its status as a certified laboratory within the Select Agent Program.
- As part of the LRN, MSPHL has the capability of transferring samples to the nearest appropriate partner laboratory if the laboratory cannot perform the required tests or becomes overwhelmed.
- The MSPHL has exercised and drilled the use of the Emergency Management Assistance Compact (EMAC). EMAC is another resource which could be employed should the need arise for additional testing beyond the capacity of the MSPHL. Relationships have been cultivated with the Midwest Research Institute (Kansas City, Missouri) and the Midwest

Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (St. Louis, Missouri) as potential outlets for surge capacity testing.

PANDEMIC INFLUENZA: LABORATORY ROLES AND RESPONSIBILITES

Sentinel and Other Private Laboratories:

Pandemic Planning

- Inventory current levels of diagnostic supplies, including personal protective equipment. Assess anticipated needs for equipment and supplies, and determine trigger point for ordering additional resources. Consider a back-up source for supplies.
- Identify key laboratory personnel whose roles are critical to maintaining laboratory operations.
- Train employees in management of respiratory specimens.
- Institute surveillance for flu-like illnesses among laboratory personnel.
- Cross-train employees to perform rapid diagnostic tests and report results.
- Qualified personnel should be identified to staff laboratory for 24/7 capabilities.
- Ensure employees are trained in the proper packaging and shipping of suspected novel influenza strains to MSPHL.

Pandemic Response

- Follow current DHSS guidelines for collecting, testing and reporting of persons with suspected infection with a novel strain of influenza virus. See updated health alerts at http://health.mo.gov/emergencies/ert/alertsadvisories/ and guidance at http://health.mo.gov/lab/virology/respiratoryvirustesting.php.
- Scale up to manage increased requests for influenza testing.
- Continue to expedite specimens from possible pandemic influenza patients to MSPHL.
- Maintain surveillance for flu-like illnesses among laboratory personnel.

Missouri State Public Health Laboratory

Pandemic Planning

- Follow CDC guidance related to possible emerging novel viruses, including implementation of new testing algorithms, changes in laboratory procedures, availability of testing reagents, etc. as pandemic evolves. Testing protocols will be determined by CDC algorithms and may be modified with each stage of the pandemic**.** The laboratory receives RT-PCR test kits and consumables through the CDC Influenza Reagent Resource (IRR). These kits and consumables are supplied as a set to ensure the availability or necessary items during peak demand. Due to the highly variable nature of the influenza virus, these kits are managed on a national level and cannot be stockpiled by the laboratory.
- Inventory current levels of supplies, assess anticipated needs for equipment and supplies and determine trigger point for ordering additional resources. Include specimen mailing kits in assessment. Arrange for back-up manufacturer source for supplies and equipment.
- Enhance lab-based influenza surveillance by increasing designated sentinel sites.

- Utilize the MOLRN **and** Health Alert Network to send out Health Alerts to educate sentinel laboratories, LPHAs, physicians and other network partners on how to notify DHSS if novel influenza infection is suspected.
- Institute surveillance for flu-like illnesses among laboratory personnel.
- Educate sentinel laboratories within Missouri which have BSL 3 facilities on the highly pathogenic nature of certain emerging novel influenza viruses. Respiratory virus cultures should not be performed in most clinical laboratories and such cultures should not be ordered for patients suspected of having highly pathogenic A/H5 (Asian Linage) virus infection. See http://www.cdc.gov/flu/h2n2bsl3.htm.
- Continue ongoing training of sentinel laboratories and LPHAs in proper specimen collection, handling and packaging and shipping procedures. See http://health.mo.gov/lab/virology/pdf/sphl_avianflu_instructions.pdf.
- Communicate expeditiously to the DHSS Division of Community Public Health (DCPH) any confirmation of a novel virus within the state.
- Continue to supply specimen collection kits and maintain courier service to all counties to facilitate receipt of novel influenza strain at the MSPHL.

Pandemic Response

- Educate sentinel laboratories on the evolving novel influenza strain testing procedures as well as supply updated information received from CDC on an ongoing basis to MOLRN laboratories, LPHAs and other associated partners using Health Alerts, MOLRN broadcasts, updated website information and by other communication means as necessary. See http://health.mo.gov/lab/virology/respiratoryvirustesting.php.
- Utilize technicians cross-trained during regular flu season to perform RT-PCR procedures and to report results as requests for influenza testing increases.
- Redirect laboratory staff to areas of greatest need, i.e. assist in specimen collection kit assembly, extraction, reporting, and telephone call triage.
- Utilize temporary staff as needed to meet increased staffing needs.
- Follow CDC guidance related to the novel virus, including institution of new testing algorithms, changes in procedures, availability of testing reagents, etc. as pandemic evolves.
- Supply updated information received from CDC on an ongoing basis to MOLRN laboratories, LPHAs and other associated partners using Health Alerts, MOLRN broadcasts, updated website information and by other communication means as necessary. See http://health.mo.gov/lab/virology/respiratoryvirustesting.php.
- Communicate expeditiously to the DCPH, initial confirmation of the novel virus within the state and trends and movement of the virus throughout the state as the pandemic evolves.
- Continue to supply specimen collection kits and maintain courier service to all counties to facilitate receipt of novel influenza strain at the MSPHL.

LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS)

Beginning in 2009, the MSPHL began the implementation of a Laboratory Information Management System (LIMS). Initially, LIMS provides for the electronic transfer of patient demographics, specimen information and results within the DHSS as well as to its federal partners. The long term capabilities and benefits of this system will be to interface with sentinel and other clinical laboratories, hospitals, health clinics and healthcare institutions to facilitate the exchange of electronic laboratory information.

REFERENCES:

Missouri State Public Health Laboratory
http://health.mo.gov/lab/

Health Alerts and Updates for Novel Influenza A H1N1
http://health.mo.gov/emergencies/ert/alertsadvisories/index.php

U.S. Department of Health and Human Services Pandemic Influenza Plan, Summary of Roles and Responsibilities for Public Health and Clinical Laboratories in Laboratory Diagnostics
http://www.hhs.gov/pandemicflu/plan/pdf/S02.pdf

Missouri Pandemic Influenza Response Plan
http://health.mo.gov/emergencies/panflu/panfluplan.php

New York City Department of Health and Mental Hygiene Pandemic Influenza Preparedness and Response Plan; pp 95-101
www.nyc.gov/html/doh/downloads//pdf/cd/cd-panflu-plan.pdf

CDC Pandemic Influenza
http://www.flu.gov/

WHO Influenza Network
http://www.who.int/influenza/gisrs_laboratory/en/

CDC Laboratory Network for Biological Terrorism (LRN)
http://www.bt.cdc.gov/lrn/

Pandemic Influenza Plan – Healthcare Systems Readiness

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INTRODUCTION

The Healthcare Systems Readiness section addresses aspects of healthcare surge capacity and management during a pandemic. The goal of this plan is to prepare healthcare systems to provide medical care in the event of pandemic influenza as well as other large-scale disasters while maintaining other essential medical services in the community during and after the event. For the purposes of this annex, healthcare systems are composed of hospitals and other healthcare facilities which are defined broadly as any combination of the following: outpatient clinics and centers, inpatient facilities and centers and other entities such as emergency medical services and community health centers.

During the interpandemic and pandemic alert periods, either before influenza has been detected or has only been detected outside of the United States, Department of Health and Senior Services (DHSS) will emphasize the development of institutional plans, infrastructural support, and policies/protocols and drills for responding to influenza pandemic. Additionally, DHSS will assist with planning for regional coordination between various components of the healthcare system and local, state, and federal governments. It is important that local healthcare systems including hospitals, primary care centers, home health agencies and long-term care facilities coordinate to allow care for the sickest patients and to maximize resources, thus the development of strong local/regional healthcare partnerships or coalitions will be instrumental in an effective pandemic response.

During the pandemic period, once pandemic influenza has developed within the United States, DHSS will work in close coordination with other governmental agencies involved in the Unified Command Structure and with associations and organizations that participate in the Hospital Preparedness Program. Healthcare systems are largely community assets, thus it is once pandemic influenza has developed locally or regionally that all aspects of this plan will be fully implemented. As influenza progresses in the locality or region from 'mild' to 'moderate' to 'severe', the healthcare systems will accelerate and intensify their response accordingly.

The development of this annex involved professionals with expertise in various facets of the healthcare arena. The recommendations suggested in this annex are intended to be synergistic with those of the other pandemic influenza planning efforts. Throughout the Healthcare Systems Readiness Annex, reference has been made to other Pandemic Influenza Response Plan annexes to assure coordination. This plan does not take the place of individual facility and community planning.

Healthcare entities incorporated into this planning effort include:

- Hospitals.
- Non-hospital settings including primary care centers, outpatient clinics and community health centers.
- Emergency medical services.
- Home care agencies.

- Long-term and other residential care facilities.

OBJECTIVES

- Provide guidance on the key elements of planning for a pandemic influenza in health care settings.
- Emphasize role of infection control practices and staff education and training in reducing the impact of a pandemic.
- Understand the necessity of coordination among healthcare providers, as well as local and state health departments during a pandemic.

BACKGROUND

Originally, the Health Resource Services Administration's (HRSA) Bioterrorism Hospital Preparedness Program (BHPP) was created through Section 3191C-1 of the Public Health Services Act to enhance the ability of hospitals and supporting healthcare systems to prepare for and respond to bioterrorism and other public health emergencies. The funding opportunity subsequently moved to the U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR), Office of Preparedness and Emergency Operations (OPEO), Division of National Healthcare Preparedness Programs (DNHPP) and will be referred to as the Hospital Preparedness Program (HPP) in this document. This funding has allowed the DHSS, working with federal, state and local partners to build upon the planning and infrastructure efforts of Missouri's healthcare entities.

The DHSS' HPP contracts with Missouri Hospital Association (MHA), Missouri Primary Care Association (MPCA), St. Louis Area Regional Response System (STARRS) through East West Gateway Council of Governments, Mid-America Regional Council (MARC), MO-1 Disaster Medical Assistance Team (MO-1 DMAT), Taney County Ambulance District (TCAD) and University of Missouri to develop and enhance preparedness capacity and capability. Memorandums of Agreement have also been established with the Department of Mental Health (DMH) and collaboration efforts are ongoing within the DHSS' Division of Community and Public Health (DCPH), Division of Regulation and Licensure (DRL), the Division of Senior and Disability Services (DSDS), and the State Public Health Laboratory (SPHL) to support preparedness capacity and capability for hospitals and other healthcare entities.

Current and prior DHSS efforts to improve all-hazards and pandemic preparedness activities include:

- Missouri is divided into nine healthcare system-planning regions designated by the letters "A-I". Each region consists of a cluster of geographically configured counties. These regions are consistent with the Missouri State Highway Patrol (MSHP), State Emergency Management Agency (SEMA) and Department of Homeland Security (DHS) regions. Divided among these regions is a service population of some 5.9 million not counting significant tourism in some areas. Surge capacity target numbers have been identified for each region.
- Each of the nine healthcare system-planning regions has at least one regional healthcare coalition; some regions have more than one. Missouri is currently implementing Tier 2 of the six-tier medical surge capacity and capability model (MSCC) of healthcare coalition planning statewide. MHA has taken the lead to engage all hospitals statewide in one

collaborative mutual aid agreement, jointly agreeing to support other hospitals within the state during critical staff or supply shortages to the extent such support can occur without resulting in hardship within their own hospital's responsibilities.

- The DHSS' Department Situation Room (DSR) monitors the day-to-day emergency preparedness of the state. A toll-free number is available around the clock for emergencies or disease reporting. Multiple stations, including a medical surge station and a volunteer management station, are activated in the DSR during a public health emergency event to assure an effective, coordinated response.
- Surge support trailers have been purchased and equipped in order to open Alternate Care Sites (ACS) on hospital campuses or at other locations across the state as necessary.
- MO-1 DMAT is a fully operational Disaster Medical Assistance Team that is both a Federal and State asset to Missouri. The system continues to develop and enhance three (3) Regional (Divisional) Response Teams located in three (3) strategic locations around the state: St. Louis, Kansas City and Springfield/Branson areas.
- Ventilator Cache has been purchased and a Management, Training and Deployment Plan is in place.
- In collaboration with the TCAD, MO-1 DMAT, DHSS, SEMA and Missouri Homeland Security, a Mobile Medical Hospital has been purchased. This mobile medical unit is a modular, scalable response package that can be used to support any hospital in the State of Missouri that has been disabled or destroyed by natural disaster, fire or is in need of expanded resources for surge capacity.
- In March 2005, DHSS in collaboration with the Missouri Division of Professional Registration and Board of Nursing launched the Emergency System for Advanced Registration and Volunteer Healthcare Professionals (ESAR-VHP), called Show-Me Response (SMR) in Missouri. Registered nurses, licensed practical nurses, physicians, pharmacists, and behavioral health workers have had the opportunity to volunteer using this web-based system. Missouri continues to actively recruit participation in SMR from all of the 25 categories of healthcare professionals as prescribed by HHS. This program will be activated during times of emergency to coordinate additional staff.
- All hospitals will have the capacity to maintain at least one (1) suspect highly infectious disease case in negative pressure and at least one (1) hospital in each region will be able to support the initial evaluation and treatment of at least ten (10) adult and pediatric patients simultaneously in negative pressure isolation.
- MHA, through a contract with DHSS, manages two web based programs for hospitals and other healthcare providers called EMTrack® and EMResource®. The first, EMTrack® provides a mechanism to track patients from the scene of a medical surge event through the transfer to their final destination for healthcare, and includes information about the patient's condition, medications and treatments. Other uses for EMTrack® include clinic vaccine administration management and tracking participants at planned events. The EMTrack® license held by MHA covers all counties in Missouri excluding the counties in Highway Patrol regions A and C.
- EMResource® has been used statewide by hospitals for several years to communicate information about their current emergency department status to ambulance services and other healthcare partners. Health alerts and amber alerts are examples of other information posted by the state to hospitals, public health and ambulance services and other users of EMResource®. It may also be used to conduct a query of hospitals to determine bed types

and bed availability, as well as situational assessment such as current level of operations, facility stress indicators and ventilator availability.

- Through EMResource®, DHSS has the ability to conduct a query of hospitals to determine bed types and bed availability, as well, as situational assessment, such as current level of operations, facility stress indicators, and ventilator availability.
- The Missouri Telehealth Network (MORENET) connects rural hospitals, mental health clinics, Federally Qualified Health Centers (FQHC) and other medical service providers via an interactive videoconferencing/conferencing network that will support the delivery of disaster preparedness communications and educational programming. The system provides a mechanism to remotely provide clinical services during disasters and is used to link hospitals, Centers for Disease Control and Prevention (CDC) and other entities in other states.
- Hospitals, Emergency Medical Services (EMS), and Federally Qualified Health Centers (FQHCs) have received personal protective equipment and received hands-on training.
- In order to assure secure redundant communication systems, equipment has been received by hospitals and FQHCs through a standardized purchase ordering system to assure interoperability that includes Satellite telephones, 550 Motorola HT 1250 16-channel programmable handheld radios, amateur radio systems and Motorola MTR 2000-97 channel and 100 watt base station radios. Regional communication hubs with interoperable and redundant communication systems have been identified in each region.
- Competency based education has been provided to hospitals and other healthcare entities through contracts with MHA, STARRS, Missouri Alliance for Home Care (MAHC), MPCA, University of Missouri and MARC.
- DMH staff provides behavioral health education as well as communication tools and other resources.
- Educational materials, including Ready In 3 guides have been provided for patients, family members, and the public regarding influenza, as well as disaster related events.
- DHSS SPHL has conducted a hospital laboratory assessment and provides resources and training to hospital laboratory personnel on various topics including packaging and shipping of diagnostic and infectious materials and on the interpretation of gram stains.
- Surveillance systems allow all rural and urban hospitals, EMS and the Poison Control Center to report data that is suggestive of influenza to their local and state health departments on a 24 hours a day, seven (7) day a week basis.
- Health alerts are sent to healthcare providers on acute public health issues through the Health Alert Network.
- Hospitals and FQHCs participate in the annual full-scale Strategic National Stockpile (SNS) exercise, as well as conduct individual and regional exercises throughout the year.
- Pandemic exercises are conducted.
- DHSS conducts regular meetings with HPP program contractors to update them on issues of concern related to pandemic preparedness plans.

CHALLENGES

- The absence of statutory or regulatory guidance to address liability concerns regarding crisis or emergency standards of care.
- Lack of tools, sample Memorandum of Agreements, Executive Orders, and policies.
- Lack of personnel to staff surge capacity needs.

- Lack of adequate personal protective equipment for surge levels.
- Assurance of coordination between the healthcare system entities.
- ESAR-VHP (Show-Me Response) will only be effective if personal liability, institutional liability and worker's compensation for healthcare providers volunteering during an emergency are addressed.
- Willingness of healthcare providers to voluntarily receive influenza vaccinations.

PLANNING ASSUMPTIONS

- All hospitals need to be prepared as there will be no designated pandemic influenza hospitals.
- Absenteeism could rise to 40%, severely crippling critical services including first responders, healthcare workers, etc.
- Hospitals may experience shortage of beds, medications, supplies, and staff. The level of the shortages will increase with the duration and severity of the pandemic.
- Emergency medical services may be severely strained in some areas, dependent upon the duration and severity of the pandemic.
- Waiting times to primary care physicians, clinics and hospital emergency departments may become very lengthy in some areas.
- Hospitals and other healthcare entities will not be able to rely on external resources beyond what they have already prepared locally. Using the Incident Command System, additional resources, if available, will be coordinated through State Emergency Operations Center (SEOC) and DHSS' Department Situation Room (DSR).
- Basic hygiene/cough etiquette and infection control strategies may have to be reiterated and encouraged.
- The EMSystem will be used as a data collection tool that will allow agencies to anticipate potential shortages in beds, staff, and equipment.
- Biosense and Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) will be used for syndromic data collection.
- Communication and coordination among providers at the local and regional level is ongoing.
- Pandemic influenza plans are exercised and equipment tested routinely, including periodic unannounced tests.
- Healthcare entities will place their EMSystem in locations throughout the organization that are easily accessible to all appropriate personnel.
- An effective healthcare response to pandemic influenza will require utilizing non-hospital based healthcare providers outside of hospital settings in order to decrease the likelihood of surges that would overwhelm hospital capability.
- Physicians in all healthcare settings must be fully integrated into plans for the healthcare response.

ROLE OF HOSPITALS:

Planning (Refer to www.hhs.gov/pandemicflu/plan/sup3.html.)
All hospitals are encouraged to establish an ongoing planning committee and develop written pandemic influenza plans (See Attachment C), inclusive of decision-making structures (Incident Command Management System) for responding to pandemic influenza. The checklist from HHS

may be useful in developing individual facility plans that encompass disease surveillance, hospital communications both internally and externally, education and training, exercises, surge capacity, infection control, security, occupational health, and mortuary issues, which are addressed respectively below.

Integral to the effectiveness and sustainability of the hospital during a pandemic influenza surge event, will be the local or regional healthcare system partnerships or coalitions developed during non-event periods. These coalitions should include all members of the healthcare system including hospitals, emergency medical services, long-term care facilities, home health agencies, mental health, outpatient clinics, community health centers and the local public health agency to the extent possible.

Surveillance (Refer to Surveillance Annex.)
During the pre-pandemic period, individual health care providers and healthcare facilities play an essential role in surveillance for suspected cases of infection with novel strains of influenza and should be on the alert for such cases. Novel strains may include avian or animal influenza strains, such as avian influenza A H5N1 or novel influenza A strains, or re-emergent human viruses that cause human disease. Thus, surveillance needs will require hospitals to have systems in place during the early pandemic period to timely identify patients at risk for infections with novel influenza strains. All patients, especially those whose primary presentation is not for influenza-like-illness (ILI), should be monitored closely for development of clinical signs of influenza during their hospital admission to detect illness and mitigate transmission of influenza throughout the hospital. Healthcare personnel involved in direct patient care should incorporate screening for the current available case definition of influenza while evaluating patients. Patients meeting these criteria should be reported immediately. These patients should receive pandemic influenza evaluation and appropriate infection control strategies should be implemented.

Hospital surveillance for pandemic influenza should include monitoring employee absenteeism, tracking emergency department visits, hospital admissions and discharges of suspected or laboratory-confirmed pandemic influenza patients, and conducting surveillance in emergency departments to detect any increase in influenza-like illness. Monitoring employee absenteeism should be implemented during the early pandemic period. All healthcare employees should be able to recognize the signs, symptoms, and risk factors of pandemic influenza and understand protocols for exclusion from work, and report their illness at the time of onset. Employees with symptoms of pandemic influenza should report to their employee health/occupational health office or similar designated offices. Hospitals should maintain a database of employees who are identified as ill and exposed from these screening programs to track staff and to direct treatment and prophylaxis. Staff surveillance during a pandemic will be critical in maintaining appropriate levels of staffing in the hospital.

Procedures should be in place to assess bed capacity and staffing needs, support local public health personnel in monitoring the progress and impact of the pandemic, detect a resurgence in pandemic influenza that might follow the first wave of cases, and antiviral treatment of healthcare workers who might be infected with the influenza virus. Hospitals should participate in the DHSS' surveillance systems including syndromic surveillance, hospitalization surveillance, and laboratory surveillance, as well as the EMSystem.

Communication (Refer to Public Communications Annex.)
Hospitals should work with public health officials, other government officials, neighboring healthcare facilities, the public and the press to ensure rapid and ongoing information sharing during an influenza pandemic. Each hospital should have a well-developed crisis communication plan fully integrated into the overall emergency response plan. Weekly or daily updates on hospital operations may improve internal, as well as external communications.

Health care facilities should assign responsibility for external communication about pandemic influenza. Persons responsible for updating public health reporting, a clinical spokesperson, and a media spokesperson should be identified. Providing accurate and consistent information will be critical during the pandemic.

The hospital should provide key messages regarding basic hygiene/cough etiquette, infection control, antivirals and vaccines, and general pandemic influenza updates to both their staff and patients. With guidance from state or local health department, the healthcare facility should determine methods, frequency and scope of external communications. For example, the hospital should provide effective risk communication messages to gain the public's cooperation and trust relative to limiting hospital care to those most likely to benefit from that level of care.

Each hospital should communicate their plan to their staff and the local public health agency (LPHA). Policies dealing with various human resources related issues during a pandemic should be developed and clearly explained to staff, and available upon request. Hospitals should maintain up-to-date contact lists for all facility personnel including phone numbers, e-mail and home street address. Each hospital should assure redundant communication systems are available, for example to ramp up the ability to handle phone calls. Hospitals should assure systems are established to receive and distribute health alerts, ensure an ongoing system to monitor the EMSystem is implemented, coordinate with their LPHA to share contact information, and implement a plan regarding how communications will flow between local and regional healthcare facilities.

Education and Training
The healthcare facility's pandemic influenza plan should establish education and training goals consistent with the clinicians' and ancillary healthcare providers' needs during various stages of the pandemic. Training materials should be available in different languages and at different reading levels, as necessary. General topics for **staff education** might include prevention and control of influenza, implications of pandemic influenza, benefits of annual influenza vaccination, role of antiviral drugs in preventing disease and reducing rates of severe influenza and its complications, infection control strategies, hospital-specific work restriction policies and procedures and creating family preparedness plans. All staff should be aware of proper donning and doffing of PPE and uses for items. Clinic-specific topics might include policies and procedures for the care of pandemic influenza patients, pandemic staffing contingency plans, reporting protocols to the state or local health department, and measures to protect family and other close contacts.

As the community's experience with the influenza progresses from "mild" to "moderate" to "severe", the healthcare system may need to implement additional 'just in time' trainings specific to clinical needs at the time and based upon pandemic management planning. For instance,

training on intake and triage to detect patients with influenza symptoms and to implement immediate containment measures to prevent transmission or guidance to behavioral health workers for providing psychological support to patients and hospital personnel (refer to Mental Health Annex). As well, it will likely be necessary to implement cross training of personnel to provide support for essential patient-care areas at times of severe staffing shortages. Health care facility staff should be educated about the importance of being immunized, vaccine safety, and the rationale for vaccine prioritization when it becomes available.

Education and training should be designed and implementation plans prepared to expand healthcare personnel capacity beyond the normal scope of practice protocols, in the event of a gubernatorial executive order allowing such expanded scopes of practice.

To **educate visitors** to the health care facility, signs and placards applicable to infection control and general influenza information should be posted in various places within the hospital and should be of varying education levels. Educational campaigns should include signage posted in common areas (elevators, waiting areas, cafeterias, lavatories, break rooms, etc.) in appropriate languages and literacy levels to assist with infection control.

Hospitals and other health care facilities should develop plans for communication of their strategy regarding use and distribution of **vaccine and antivirals** consistent with the local and state public health agencies' recommendations.

Employees, visitors, and patients should learn and understand the proper usage of PPE through fit testing, hands-on activities, and flyers posted in common areas in appropriate language and literacy levels. Pre-made flyers describing the basics of disease transmission should also be considered. Facility staff should be informed of the protocols for visitor and patient PPE requirements.

The healthcare facilities should actively participate in pandemic influenza response exercises and drills, incorporating lessons learned into response plans.

Surge Capacity

Hospital surge planning may be enhanced by considering categories of conventional, contingency and crisis capacity. Four interdependent factors – system, space, staff, and supplies – contribute to effective surge capacity. The levels of surge capacity are defined as:

- Conventional capacity – The spaces, staff, and supplies used are consistent with daily practices within the institution. These spaces and practices are used during a major mass casualty incident that triggers activation of the facility emergency operations plan.
- Contingency capacity – The spaces, staff, and supplies used are not consistent with daily practices but maintain or have minimal impact on usual patient care practices. These spaces or practices may be used temporarily during a major mass casualty incident or on a more sustained basis during a disaster (when the demands of the incident exceed community resources).
- Crisis capacity – Adaptive spaces, staff, and supplies are not consistent with usual standards of care but provide sufficiency of care in the setting of a catastrophic disaster (i.e., provide the best possible care to patients given the circumstances and resources available).

System

The pre-event healthcare planning and written pandemic influenza response plan should outline the hospital's incident command structure, indicating processes, triggers for implementation and interface with local, regional and state emergency management and public health. The hospital should monitor the EMSystem routinely and report to DHSS in order to coordinate requests for hospital closure, diversion or decreases in services. As well, healthcare planning should anticipate the potential necessity of implementing crisis or emergency standards of care during severe stages of a pandemic, hospitals should consult with DHSS and other regulatory agencies, prior to implementing altered standards of care.

The hospital should ensure effective triage and isolation procedures are in place to facilitate the early recognition and appropriate management of patients presenting with clinical symptoms and/or epidemiologic risk factors for influenza due to novel strains, as well as minimize the risk of transmission. This may include assigning a triage coordinator to manage patient flow, including deferring or referring patients who do not require emergency care (conventional to contingency), as well as establishing a separate triage evaluation area for persons with respiratory symptoms. As the pandemic progresses, it may be useful to activate streamlined admission procedures, criteria and procedures for phone triage, cross-train staff from other parts of the hospital or community to assist with triage and admission, and activate external triage stations or evaluation units (contingency to crisis). Triage and admission guidelines should triage patients to the appropriate level of care including home care.

The hospital may wish to cohort patients admitted for influenza, monitor for nosocomial infections, discharge patients as soon as possible, defer elective admissions, and provide visual alerts regarding the need for patients with fever and respiratory symptoms to proceed directly to triage and adhere to respiratory and hand hygiene precautions (conventional to contingency). During moderate and severe levels of the pandemic, the hospital may need to limit admission of influenza patients to those with severe complications who can only be cared for in the hospital setting (contingency to severe).

Space

During conventional and contingency surge, space within the hospital should be prioritized for pandemic patients by implementing plans for rapid patient discharge, canceling elective surgery, establishing separate waiting areas for persons who are symptomatic, and cohorting patients admitted with influenza. As the pandemic progresses to contingency and severe surge, the hospital should implement policies and procedures for shifting patients between nursing units to free up bed space in critical care areas, cohort patients, collaborate with home health agencies to arrange at-home follow-up care for patients who have discharged early or admission has been deferred, determine if emergency procedure patients may be transferred/referred to other hospitals, activate surge capacity trailers, and consider opening alternate care site(s). In general, the hospital should coordinate with other outpatient clinics and community health centers, hospitals, home health agencies and long-term care facilities to allow hospitals to care for the sickest patients, and to maximize resources of other healthcare facilities and home care agencies to care for those less severely ill.

Depending on the severity of the pandemic, alternate care facilities may be necessary. Health care facilities should develop plans for alternate care site(s) incorporating issues of staffing, supplies, triage, and infection control.

Staff

Strategies to consider during conventional to contingency surge staffing include furloughing or reassigning pregnant staff and other staff at high risk for complications of influenza, reassigning non-essential staff to support critical hospital services, expanding staff shifts, and cohorting staff or assigning staff recovering from influenza to care for influenza patients. Moderate to severe levels of pandemic influenza in the community will likely result in contingency to severe surge staffing. Strategies to consider at these levels of the pandemic include activating the mutual aid agreement signed by Missouri hospitals to access additional staff, recruiting community volunteers (retired nurses and physicians, clinical staff working in outpatient settings), requesting DHSS to activate the Emergency System for Advanced Registration of Volunteer Healthcare Professionals (ESAR-VHP) or Show-Me Response, requesting assistance from Medical Reserve Corps (MRC), requesting assistance from trainees (e.g., medical and nursing students), and requesting assistance from patients' family member in an ancillary healthcare capacity.

Supplies (Refer to **www.hhs.gov/pandemicflu/plan/sup3.html**.)

The hospital should evaluate the existing system for tracking available medical supplies in the facility and determine how/when to stockpile consumable resources, considering resources for a pandemic wave of six to eight weeks' duration. The hospital should develop a strategy for acquiring additional respiratory care equipment and to maintain antibiotics to treat bacterial complications of influenza. Systems should be developed for tracking hospital supplies as well as working with vendors to ensure a continued supply of available resources. The hospital should coordinate with the LPHA to determine needed doses of vaccine and antivirals for identified high priority groups (conventional to contingency). Contingency plans for situations where medical supplies become limited should also be developed.

As the pandemic increases in severity or extends in duration, it may be necessary for the hospital to access supplies from regional surge trailers, pulmonary caches, managed inventory from the Strategic National Stockpile or other state or federal supply requests as deemed necessary. These requests should be coordinated with local EOC (Emergency Operations Center) according to Local Incident Management System and established process (contingency to crisis).

Infection Control (Refer to **www.hhs.gov/pandemicflu/plan/sup4.html** and **www.hhs.gov/pandemicflu/plan/sup5.html**)

It will be necessary for healthcare facilities to practice and reinforce the stringent use of infection control measures in order to prevent the spread of influenza. Strict adherence to hand washing recommendations and universal public health measures will be paramount during a pandemic. Pre-pandemic planning should ensure adequate supplies of hand hygiene products in all health care settings to anticipate possible shortages of hand antisepsis products, soap and hand towels. Hospitals should post signs for respiratory hygiene/cough etiquette. Patients with potential pandemic influenza should be identified, isolated and treated. The hospital should use triggers relative to signs/symptoms of pandemic influenza to escalate screening procedures of all persons entering

the hospital to a more active level. Hospitals should accelerate the training of staff relative to infection control measures, in accordance with the clinic's pandemic influenza education and training plan, as well as consider site-specific infection control issues.

In order to reduce hospital-related transmissions, protocols to cohort staff and patients, as well as restrict new admissions (except for other pandemic influenza patients) to affected units should be considered. Cohorting patients in the designated areas of the hospital should be considered from the start of the influenza pandemic in order to contain infection within a segregated part of the hospital and thereby reduce the risk to other patients. Establishing separate entrances and exits when a dedicated area is segregated for influenza patients could be beneficial, as this would allow staff to put on PPE prior to entry to the area away from where they remove PPE after leaving that area. Hospitals should develop appropriate procedures and policies for restricting patients and staff movement within the hospital to allow proper functioning of influenza and non-influenza treatment zones. Limiting the movement of patients, including transfers within the hospital, could limit the spread of influenza within the facility.

Designated influenza areas should be cleaned at least daily, with special attention to potentially highly contaminated surfaces, such as bed rails, furniture, door handles, and bathroom fixtures. Routine cleaning procedure after patient discharge is expected to be adequate. **Visitors** should be informed when the Health Care Facility (HCF) has influenza activity. During a pandemic, visitation should be kept to a minimum, and restriction of visiting hours should be considered. Visitors with influenza symptoms should be prohibited from entering clinical areas. Visitors entering influenza treatment areas must be instructed on standard infection control principles and the wearing of protective equipment, as appropriate. Visitors' use of PPE should be determined by their level of interaction with the patients and staff.

Volunteers should report to and sign in at the area specially designated for them. Volunteers should not move between influenza designated and non influenza areas. Instruction in standard infection control practices, including specific instruction on PPE, should be provided.

Occupational Health

The development and implementation of an occupational health plan in the healthcare setting will help maintain a healthy workforce, both to assure adequate staff capacity to provide care to their patients as well as decrease the likelihood of healthcare staff exposing their patients to the influenza. Essential components will protect healthy workers from exposures in the healthcare setting, as well as evaluate and manage symptomatic and ill healthcare personnel.

Hallmarks of an occupational health plan will include basic hygiene/cough etiquette, infection control strategies, and vaccination. All healthcare personnel, including employees with non-patient care responsibilities, should be encouraged to voluntarily receive the influenza vaccine annually, unless the healthcare worker has specific medical restrictions prohibiting use of the vaccine. The healthcare system's plan should include distribution and administration of antiviral drugs and/or vaccines to healthcare personnel as recommended, as well as a system for documenting the vaccination of healthcare personnel. Prophylaxis antivirals should be available for healthcare providers, according to HHS and DHSS guidelines.

The healthcare system should provide information to staff regarding the importance of creating family emergency preparedness plans in advance of an emergency (http://health.mo.gov/emergencies/readyin3/). For pandemic influenza, the family emergency preparedness plan may include provisions for alternate care for children and elderly family members, should they become ill. Basic hygiene/ cough etiquette, infection control and vaccination may be appropriate considerations.

Clear guidance and work restriction policies should be formulated and clearly communicated prior to a pandemic influenza regarding the need for staff to stay at home in the event of fever and respiratory symptoms. The healthcare system should clearly communicate what actions an employee takes if onset of illness occurs during work or at home. If possible, it may be advantageous to reassign healthcare providers that are at high risk for complications of influenza to lower risk jobs that do not involve direct care of suspected pandemic patients.

During an influenza outbreak, the healthcare system should establish regular updates for clinicians, direct patient care staff and screening/triage staff on the current status of the pandemic and any changes in the recommendations for management of influenza patients. The plan should include provisions for 'just in time' training and education for all healthcare personnel, as needed.

The healthcare system's plan should also include provisions for psychosocial and mental health needs of healthcare personnel and their families. These provisions should be designed to assist healthcare workers to deal with the stress of separation from family members for extended periods which may be necessary during a pandemic, as well as the stress of dealing with very ill patients and potentially multiple fatalities.

Human Resources
During the pre-pandemic period, procedures should be developed regarding human resources policies for the pandemic period. The policies should be formulated for annual leave, sick leave, compensation, hiring, furloughing, workers compensation, and Family Medical Leave Act (FMLA).

Security
Security in the healthcare setting will play a pivotal role during a pandemic. Additional security may be required because of the increased demand for services and possibility of long wait times, and because triage or treatment decisions may lead to people not receiving the care they think they require.

It will be important to implement restrictions on facility access, including limiting the number of visitors to those essential for patient support, assign clinical staff to entry screening, screen visitors at the point of entry to the facility for signs and symptoms of influenza, and limit points of entry to the facility. Each health care facility should consider their unique needs for security planning. Security personnel should participate in education and exercise opportunities, upgrade security equipment as necessary, and cross-train appropriate personnel in preparation for workforce reductions due to illness.

Mortuary Issues (Refer to Mass Fatality Management Annex.**)**
A planning workgroup, including the coroner/medical examiner, should develop strategies to address fatality surge. The workgroup should determine the scope and volume of supplies needed to handle an increased number of deceased persons, assess the current capacity for refrigeration, identify temporary morgue sites, and identify any regional supplies or assets for body storage.

ROLE OF NON-HOSPITAL HEALTHCARE SYSTEM PARTNERS

Emergency Medical Service and Non-Emergency Medical Transport
(Refer to Attachment C.)
Emergency medical organizations will be involved in the transport of acutely ill patients with known or suspected pandemic influenza to emergency departments. It is anticipated that some of these patients might require mechanical ventilation for life support and/or other lifesaving interventions. Non-emergent (medical) transport organizations will be called upon to transport recovering pandemic influenza patients to their home, residential care facility, or possibly to alternative care sites.

Emergency and non-emergency medical transport organizations should promote occupational health principles as outlined in this plan, including promotion of basic hygiene/cough etiquette, infection control measures, vaccinations for staff, and prophylaxis antivirals as directed by HHS and DHSS.

Home Healthcare Services (Refer to Attachment E.)
In addition to providing care to their existing patients, home health agencies will likely be called upon to provide care for patients who do not require hospitalization for pandemic influenza, or for whom hospitalization is not an option because hospitals have reached their capacity to admit patients. These agencies may become overburdened very quickly and shortages of personnel and supplies providing home healthcare may occur.

It is incumbent upon both the home health agency and local/regional hospital(s) or healthcare systems to plan collaboratively prior to a pandemic influenza event regarding how the home health agencies' personnel might be optimally utilized during the surge of an event. All healthcare system partners in communities are encouraged to engage in their local/regional healthcare partnership or coalition. Pre-planning will allow the systems partners to provide more seamless care at the time of the event, increase communication across systems and relieve some of the stress of providing care during patient surge for all partners.

Non-Hospital Services, Including Outpatient Clinics and Community Health Centers
Planning an effective delivery of care in outpatient settings is critical. To maintain essential medical services, careful coordination will be needed between hospitals, outpatient care clinics and community health centers. The emphasis will be on allowing hospitals to care for the sickest patients, regardless of etiology, and to maximize the resources of other healthcare facilities and home care agencies to care for those less severely ill and/or at lower risk for complications or death, as well as those less likely to survive even with critical care support. Appropriate

management of outpatient influenza cases will reduce progression to severe disease and thereby reduce demand for inpatient care.

It is incumbent upon both the outpatient clinic or community health center and local/regional hospital(s) or healthcare systems to plan collaboratively prior to a pandemic influenza event regarding how the outpatient clinics' or community health centers' personnel might be optimally utilized during the surge of an event. All healthcare system partners are encouraged to engage in their local/regional healthcare partnership or coalition. Pre-planning will allow the systems partners to provide more seamless care at the time of the event, increase communication across systems and relieve some of the stress of providing care during patient surge for all partners.

Residential Care, Skilled Nursing, Assisted Living And Other Long-Term Care Facilities
(Refer to Attachment F.)
All levels of long-term care facilities should also follow the basic principles outlined within this plan within their own facility including healthcare planning, establishing occupational health policies and protocols, reinforcing basic hygiene/cough etiquette, infection control, promotion of vaccines, and antiviral prophylaxis for staff, as guided by HHS and DHSS. It is assumed long-term care facilities will have the staff, supplies and other resources to provide influenza care for their own patients.

Main Menu

Close

Step 1: Determine population of locale by age groups:

Age Group	Population
0-19 yrs	1,437,342
20-64 yrs	3,713,135
+ 65 yrs	838,450

Enter Data in WHITE boxes only!

View or Change Assump-tions

Step 2: Determine basic hospital resources:

Total licensed non-ICU beds:	23,854
% licensed non-ICU beds staffed:	60%
Total staffed non-ICU beds:	14,312
Total licensed ICU beds:	2,124
% licensed ICU beds staffed:	90%
Total Staffed ICU beds:	1,912
Total number of ventilators:	2,000
% ventilators available:	10%
Total number of ventilators available:	200

Step 3: Determine duration (6, 8, or 12 weeks) and attack rate (15%, 25% or 35%) of the pandemic:

Duration: 8 Attack rate: 25%

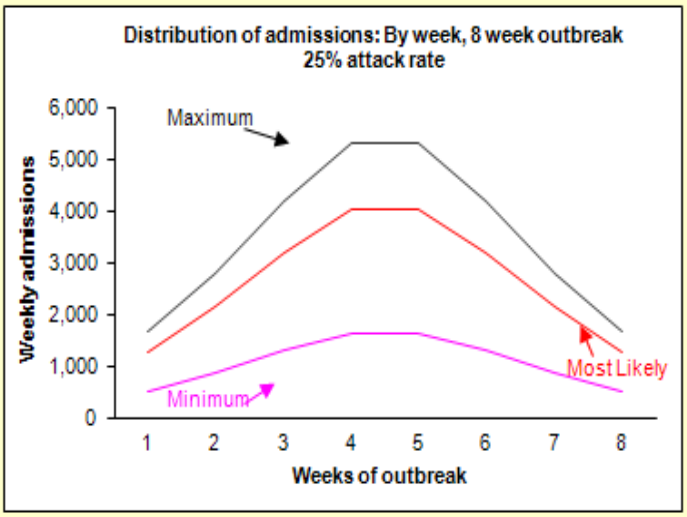
Step 4: Click to View Results

Notes: 1. Sample data are from Metropolitan Atlanta.

2. Duration (pandemic duration) refers to the number of weeks you assume the pandemic wave to last.

3. Attack rate (gross clinical attack rate) refers to the percentage of the population that becomes clinically ill due to pandemic influenza.

Pandemic Influenza Impact / Attack Rate	25%
Total Hospital Admissions	
Most Likely Scenario	21,204
Minimum Scenario	8,578
Maximum Scenario	27,923
Total Deaths	
Most Likely Scenario	4,265
Minimum Scenario	2,521
Maximum Scenario	6,996



Hosp Adm. / Week	1	2	3	4	5	6	7	8
Most Likely Scenario	1,272	2,120	3,181	4,029	4,029	3,181	2,120	1,272
Minimum Scenario	515	858	1,287	1,630	1,630	1,287	858	515
Maximum Scenario	1,675	2,792	4,188	5,305	5,305	4,188	2,792	1,675

Pandemic Influenza Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admissions	1,272	2,120	3,181	4,029	4,029	3,181	2,120	1,272		
	Peak admissions/day				628	628					
Hospital Capacity	# of influenza patients in hospital	935	1,559	2,338	2,961	3,066	2,695	2,067	1,356		
	% of hospital capacity needed	7%	11%	16%	21%	21%	19%	14%	9%		
ICU Capacity	# of influenza patients in ICU	191	405	622	821	888	864	687	474		
	% of ICU capacity needed	10%	21%	33%	43%	46%	45%	36%	25%		
Ventilator Capacity	# of influenza patients on ventilators	95	202	311	410	444	432	343	237		
	% usage of ventilator	48%	101%	155%	205%	222%	216%	172%	119%		
Deaths	# of deaths from influenza			256	427	640	810	810	640	427	256
	# of influenza deaths in hospital			179	299	448	567	567	448	299	179

Notes: 1. All results showed in this table are based on most likely scenario.

2. Number of influenza patients in hospital, in ICU, and number of influenza patients on ventilators are based on maximum daily number in a relevant week.

3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity available (see manual for details).

4. The maximum number of influenza patients in the hospital each week is lower than the number of weekly admissions because we assume a 5-day stay in general wards (see manual for details).

Attachment B – Hospital Checklist

Preparedness Subject	Actions Needed
1. Structure for planning and decision making	
• An internal, multidisciplinary planning committee for influenza preparedness has been created.	
• A person has been designated as the influenza preparedness coordinator. (Insert name) _____	
• Members of the planning committee include the following hospital staff members (insert names) o Administration _____ o Legal counsel _____ o Infection control _____ o Hospital disaster coordinator _____ o Risk management _____ o Facility engineering _____ o Nursing administration _____ o Medical staff _____ o Intensive care _____ o Emergency Department _____ o Laboratory services _____ o Respiratory therapy _____ o Psychiatry _____ o Environmental services _____ o Public relations _____ o Security _____ o Materials management _____ o Staff development _____ o Occupational health _____ o Diagnostic imaging _____ o Pharmacy _____ o Information technology _____ o Other members _____ o Other members _____	
• A state or local health department person has been identified as a committee liaison. (Insert name) _____ • A linkage with local or regional emergency preparedness groups has been established. (Planning organization) _____	

2. Development of a written pandemic influenza plan	
• A written plan has been completed or is in progress that includes the elements listed in #3 below.	
• The plan specifies the circumstances under which the plan will be activated.	
• The plan describes the organization structure that will be used to operationalize the plan.	
• Responsibilities of key personnel related to executing the plan have been described.	
• A simulation exercise has been developed to test the effectiveness of the plan.	
• A simulation exercise has been performed. (Date performed _____)	
3. Elements of an influenza pandemic plan	
• A **surveillance plan** has been developed. o Syndromic surveillance has been established in the emergency room. o Criteria for distinguishing pandemic influenza is part of the syndromic surveillance plan. o Responsibility has been assigned for reviewing global, national, regional, and local influenza activity trends and informing the pandemic influenza coordinator of evidence of an emerging problem. (Name _____) o Thresholds for heightened local surveillance for pandemic influenza have been established. o A system has been created for internal review of pandemic influenza activity in patients presenting to the emergency department. o A system for monitoring for nosocomial transmission of pandemic has been implemented and tested by monitoring for non-pandemic influenza.	
• A **communication plan** has been developed. o Responsibility for external communication has been assigned. ▪ Person responsible for updating public health reporting _____ ▪ Clinical spokesperson for the facility_____ ▪ Media spokesperson for the facility _____ o Key points of contact outside the facility have been identified. ▪ State health department contact _____ ▪ Local health department contact _____ ▪ Newspaper contact(s) _____ ▪ Radio contact(s) _____	

▪ Public Officials(s) _____ o A list of other healthcare facilities with whom it will be necessary to maintain communication has been established. o A meeting with local healthcare facilities has been held to discuss a communication strategy. o A plan for updating key facility personnel on a daily basis has been established. The person(s) responsible for providing these updates are: _____ o A system to track pandemic influenza admissions and discharges has been developed and tested by monitoring non-pandemic influenza admissions and discharges in the community. o A strategy for regularly updating clinical, ED, and outpatient staff on the status of pandemic influenza, once detected, has been established. (Responsible person _____.) o A plan for informing patients and visitors about the level of pandemic influenza activity has been established.	
• An education and training plan on pandemic influenza has been developed. o Language and reading level-appropriate materials for educating all personnel about pandemic influenza and the facility's pandemic influenza plan, have been identified. o Current and potential sites for long-distance and local education of clinicians on pandemic influenza have been identified. o Means for accessing state and federal web-based influenza training programs have been identified. o A system for tracking which personnel have completed pandemic influenza training is in place. o A plan is in place for rapidly training non-facility staff brought in to provide patient care when the hospital reaches surge capacity.	
• The following groups of healthcare personnel have received training on the facility's influenza plan: o Attending physicians o House staff o Nursing staff o Laboratory staff o Emergency Department personnel o Outpatient personnel o Environmental Services personnel o Engineering and maintenance personnel o Security personnel o Nutrition personnel	
• A **triage and admission plan** has been developed. o A specific location has been identified for triage of patients with possible pandemic influenza.	

○ The plan includes use of signage to direct and instruct patients with possible pandemic influenza on the triage process. ○ Patients with possible pandemic influenza will be physically separated from other patients seeking medical attention. ○ A system for phone triage of patients for purposes of prioritizing patients who require a medical evaluation has been developed. ○ Criteria for determining which patients need a medical evaluation are in place. ○ A method for tracking the admission and discharge of patients with pandemic influenza has been developed. ○ The tracking method has been tested with non-pandemic influenza patients.	
• A **facility access plan** has been developed. ○ Criteria and protocols for closing the facility to new admissions are in place. ○ Criteria and protocols for limiting visitors have been established. ○ Hospital security has had input into procedures for enforcing facility access controls.	
• An **occupational health plan** has been developed. ○ A system for rapidly delivering vaccine or antiviral prophylaxis to healthcare personnel has been developed. ○ The system has been tested during a non-pandemic influenza season. ○ A method for prioritizing healthcare personnel for receipt of vaccine or antiviral prophylaxis based on level of patient contact and personal risk for influenza complications has been established. ○ A system for detecting symptomatic personnel before they report for duty has been developed. ○ This system has been tested during a non-pandemic influenza period. ○ A policy for managing healthcare personnel with symptoms of or documented pandemic influenza has been established. The policy considers: ❖ When personnel may return to work after having pandemic influenza. ❖ When personnel who are symptomatic but well enough to work, will be permitted to continue working. ○ A method for furloughing or altering the work locations of personnel who are at high risk for influenza complications (e.g., pregnant women, immunocompromised healthcare workers) has been developed. ○ Mental health and faith-based resources who will provide counseling to personnel during a pandemic have been identified. ○ A strategy for housing healthcare personnel who may be needed on-site for prolonged periods of time is in place. ○ A strategy for accommodating and supporting personnel who have child or elder care responsibilities has been developed.	
• A **vaccine and antiviral use plan** has been developed. ○ A contact for obtaining influenza vaccine has been identified. (Name) _____ ○ A contact for obtaining antiviral prophylaxis has been identified. (Name) _____ ○ A priority list (based on HHS guidance for use of vaccines and antivirals in a pandemic when in short supply) and estimated number of patients and healthcare personnel who would be targeted for influenza vaccination or antiviral	

prophylaxis has been developed. ▪ Number of first priority personnel _____ ▪ Number of second priority personnel _____ ▪ Number of remaining personnel _____ ▪ Number of first priority patients _____ ▪ Number of second priority patients _____ o A system for rapidly distributing vaccine and antivirals to patients has been developed.	
• Issues related to surge capacity have been addressed. o A plan is in place to address unmet staffing needs in the hospital. o The minimum number and categories of personnel needed to care for a group of patients with pandemic influenza has been determined. o Responsibility for assessing day-to-day clinical staffing needs during an influenza pandemic has been assigned. Persons responsible are: (names and/or titles) _____ o Legal counsel has reviewed emergency laws for using healthcare personnel with out-of-state licenses. o Legal counsel has made sure that any insurance and other liability concerns have been resolved. o Criteria for declaring a "staffing crisis" that would enable the use of emergency staffing alternatives have been defined. o The plan includes linking to local and regional planning and response groups to collaborate on addressing widespread healthcare staffing shortages during a crisis. o A priority list for reassignment and recruitment of personnel has been developed. o A method for rapidly credentialing newly recruited personnel has been developed. o Mutual AID Agreements (MAAs) and Memoranda of Understanding/Agreement (MOU/As) have been signed with other facilities that have agreed to share their staff, as needed.	
• Strategies to increase bed capacity have been identified. o A threshold has been established for canceling elective admissions and surgeries. o MOAs have been signed with facilities that would accept non-influenza patients in order to free-up bed space. o Areas of the facility that could be utilized for expanded bed space have been identified. o The estimated patient capacity for this facility is _____. o Plans for expanded bed capacity have been discussed with local and regional planning groups.	
• Anticipated durable and consumable resource needs have been determined. o A primary plan and contingency plan to address supply shortages has been developed. o Plans for obtaining limited resources have been discussed with local and regional	

planning and response groups.	
• A strategy for handling increased numbers of deceased persons has been developed. o Plans for expanding morgue capacity have been discussed with local and regional planning groups. o Local morticians have been involved in planning discussions. o Mortality estimates have been used to estimate the number of body bags and shrouds. o Supply sources for postmortem materials have been identified.	

EMERGENCY MEDICAL SERVICE AND NON-EMERGENT (MEDICAL) TRANSPORT ORGANIZATIONS PANDEMIC INFLUENZA PLANNING CHECKLIST

Planning for pandemic influenza is critical for ensuring a sustainable health care response. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist to help emergency medical services (EMS) and non-emergent (medical) transport organizations assess and improve their preparedness for responding to pandemic influenza. EMS organizations will be involved in the transport of acutely ill patients with known or suspected pandemic influenza to emergency departments; some of these patients might require mechanical ventilation for life support and/or other lifesaving interventions. Non-emergent (medical) transport organizations will be called upon to transport recovering pandemic influenza patients to their home, residential care facility, or possibly to alternate care sites set up by state or local health departments. This checklist is modeled after one included in the HHS Pandemic Influenza Plan (www.hhs.gov/pandemicflu/plan/sup3.html#app2). The list is comprehensive but not complete; each organization will have unique and unanticipated concerns that also will need to be addressed as part of a pandemic planning exercise. Also, some items on the checklist might not be applicable to all organizations. Collaborations among hospital, public health and public safety personnel are encouraged for the overall safety and care of the public. Further information can be found at www.pandemicflu.gov.

This checklist identifies key areas for pandemic influenza planning. EMS and non-emergent (medical) transport organizations can use this tool to self-assess and identify the strengths and weakness of current planning. Links to websites with information are provided throughout the document. However, actively seeking information that is available locally or at the state level will be necessary to complete the development of the plan. Also, for some elements of the plan (e.g., education and training programs), information may not be immediately available and monitoring of selected websites for new and updated information will be necessary

1. Structure for planning and decision making.

Completed	In Progress	Not Started	
❑	❑	❑	**Pandemic influenza has been incorporated into emergency management planning and exercises for the organization.**
❑	❑	❑	**A planning committee[1] has been created to specifically address pandemic influenza preparedness.**
❑	❑	❑	**A person has been assigned responsibility for coordinating pandemic influenza preparedness planning (hereafter referred to as the pandemic response coordinator) for the organization. (Insert name, title, and contact information.)** _____
❑	❑	❑	**Members of the planning committee include the following: (Insert below or attach a list with name title and contact information for each.)** ❑ Administration: _____ ❑ Medical staff: _____ ❑ EMS providers: _____ ❑ Phone triage personnel/dispatch center: _____ ❑ Emergency management officer: _____ ❑ State/local health official: _____ ❑ Law enforcement official (for quarantine/security): _____ ❑ Other member[2]: _____
❑	❑	❑	**A point of contact (e.g., internal staff member assigned infection control responsibility for the organization or an outside consultant) for questions/consultation on infection control has been identified. (Insert name, title, and contact information.)** _____ _____

1. Size of committee can vary, depending on the size and needs of the organization.
2. Some organizations may need or want to include a school official or volunteer coordinator for local civic and preparedness groups (e.g., Medical Reserve Corps, Citizen Corps, Community Emergency Response Teams, Rotary Club, Lions, Red Cross).

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2. Development of a written pandemic influenza plan.

Completed	In Progress	Not Started	
☐	☐	☐	Copies of relevant sections of the Department of Health and Human Services Pandemic Influenza Plan have been obtained. www.hhs.gov/pandemicflu/plan.
☐	☐	☐	Copies of available community and state pandemic plans have been obtained.
☐	☐	☐	A written plan has been completed or is in progress that includes the elements listed in #3 below.
☐	☐	☐	The plan describes the organizational structure (i.e., lines of authority) that will be used to operationalize the plan.
☐	☐	☐	The plan complements or is part of the community response plan.

3. Elements of an influenza pandemic plan.

Completed	In Progress	Not Started	
☐	☐	☐	**A plan is in place for surveillance and detection of pandemic influenza in the population served and the appropriate organizational response.**
			☐ Responsibility has been assigned for monitoring national and state public health advisories (e.g., www.cdc.gov/flu/weekly/fluactivity.htm) and informing the pandemic response coordinator and members of the pandemic influenza planning committee when cases of pandemic influenza have been reported in the United States and when they are nearing the geographic area (e.g., state or city). (Insert name, title, and contact information of person responsible.) _____
			☐ A system has been created to track influenza-like illness in patients transported to hospitals and among EMS staff and to report this information to the pandemic response coordinator (i.e., weekly or daily number of patients with influenza-like illness). For more information see www.cdc.gov/flu/professionals/diagnosis/. (Having a system for tracking illness trends in patients and staff during seasonal influenza will ensure that organizations can detect stressors that may affect operating capacity, such as staffing and supply needs, and hospital and emergency department capacity during a pandemic.)
☐	☐	☐	**A communication plan has been developed.**
			☐ Key public health points of contact for pandemic influenza have been identified. (Insert below or attach a list with the name, title, and contact information for each.)
			☐ Local health department contact: _____
			☐ State health department contact: _____
			☐ Local emergency management contact: _____
			☐ State emergency management contact: _____
			☐ Federal health emergency contact(s): _____
			☐ The organization's point person for external communication has been assigned. (Insert name, title, and contact information.) _____ (Having one person who speaks with the health department, and if necessary, media, local politicians, etc., will help ensure consistent communication is provided by the organization.)
			☐ A list of healthcare entities and their points of contact (e.g., other local EMS and non-emergent [medical] transport organizations, local hospitals and their emergency departments, community health centers, residential care facilities has been created. (Insert location of or attach copy of contact list.) _____
			☐ The pandemic response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on communication and coordination plans, including how EMS will be represented in the planning process. (For more information on state and local planning, see www.hhs.gov/pandemicflu/plan/part2.html#overview.)
			☐ The pandemic response coordinator has contacted other EMS and non-emergent (medical) transport organizations regarding pandemic influenza planning and coordination of services.

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	A plan is in place to ensure that education and training on pandemic influenza is provided to ensure that all personnel understand the implications of, and control measures for, pandemic influenza and the current organization and community response plans.
			❑ A person has been designated to coordinate education and training (e.g., identify and facilitate access to education and training programs, ensure that staff attend, and maintain a record of attendance at education and training programs). (Insert name, title, and contact information.) _____ _____
			❑ Current and potential opportunities for long-distance (e.g., web-based) and local (e.g., health department or hospital sponsored programs, programs offered by professional organizations or federal agencies) education of EMS and medical transport personnel have been identified. (For more information see www.cdc.gov/flu/professionals/training/.)
			❑ Language and reading-level-appropriate materials for professional and non-professional personnel on pandemic influenza (e.g., available through state and federal public health agencies and professional organizations) have been identified and a plan is in place for obtaining these materials.
			❑ Education and training include information on infection control measures to prevent the spread of pandemic influenza.
			❑ Differences between responding to pandemic influenza and a mass casualty event have been incorporated into education and training programs.
❑	❑	❑	A plan has been developed for triage and management of patients during a pandemic that includes the following:
			❑ A system for phone triage of patients calling 911 or other emergency numbers that might be used (provide/post list of appropriate numbers) that includes pre-established criteria and coordination protocols to determine who needs emergency transport. The system includes points of referral for patients who do not need emergency transport.
			❑ A plan for coordination with receiving facilities (e.g., hospital emergency departments), other EMS and non-emergent (medical) transport organizations, and local planning groups to manage the transportation of large numbers of patients at the height of the pandemic.
			❑ A policy and procedure for transporting multiple patients with pandemic influenza during a single ambulance run.
			❑ The plan considers the possible necessity of sharing transportation resources or using vehicles other than those designed for emergency or medical transport (e.g., buses).
❑	❑	❑	An infection control plan is in place and includes the following: (For information on infection control recommendations for pandemic influenza, see www.hhs.gov/pandemicflu/plan/sup4.html).
			❑ A plan for implementing Respiratory Hygiene/Cough Etiquette for patients with a possible respiratory illness.
			❑ The plan includes distributing masks[3] to symptomatic patients who are able to wear them (adult and pediatric sizes should be available), providing facial tissues and receptacles for their disposal, and hand hygiene materials in EMS and medical transport vehicles.
			❑ Implementation of Respiratory Hygiene/Cough Etiquette has been exercised during seasons when seasonal influenza and other respiratory viruses (e.g., respiratory syncytial virus, parainfluenza virus) are circulating in communities.
			❑ A policy that requires healthcare personnel to use Standard Precautions (www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html) and Droplet Precautions (i.e., mask for close contact) (www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html) with symptomatic patients.

3. Masks include both surgical and procedure types. Procedure masks that are affixed to the head with ear loops might be used more easily by patients and are available in pediatric and adult sizes. Either surgical or procedure masks may be used as a barrier to prevent contact with respiratory droplets.

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	**An occupational health plan has been developed that includes the following:**
			❑ A liberal/non-punitive sick leave policy for managing EMS and non-emergent (medical) transport personnel who have symptoms of, or documented illness with, pandemic influenza.
			❑ The policy considers the following: • Handling of staff who become ill at work. • When personnel may return to work after recovering from pandemic influenza. • When personnel who are symptomatic but well enough to work will be permitted to continue working. • Personnel who need to care for their ill family members.
			❑ A system for evaluating symptomatic personnel before they report for duty that has been tested during a non-pandemic influenza period.
			❑ A list of mental health and faith-based resources available to provide counseling to personnel during a pandemic.
			❑ Management of personnel who are at increased risk for influenza complications (e.g., pregnant women, immunocompromised healthcare workers) by placing them on administrative leave or altering their work locations.
			❑ The ability to monitor seasonal influenza vaccination of personnel.
			❑ Offering annual influenza vaccine to personnel.
❑	❑	❑	**A vaccine and antiviral use plan has been developed.**
			❑ Websites containing current CDC and state health department recommendations for the use and availability of vaccines and antiviral medications have been identified. (For more information, see www.hhs.gov/pandemicflu/plan/sup6.html and www.hhs.gov/pandemicflu/plan/sup7.html.)
			❑ An estimate has been made of the number of personnel who will be targeted as first and second priority for receipt of pandemic influenza vaccine and antiviral prophylaxis, based on HHS guidance for use. (For more information, see www.hhs.gov/pandemicflu/plan/appendixd.html.)
			❑ Discussions have been held with the local and/or state health department regarding the role of the organization in a large-scale program to distribute vaccine and antivirals to the general population.
❑	❑	❑	**Concerns related to surge capacity during a pandemic have been addressed.**
			❑ A plan is in place for managing a staffing shortage within the organization because of illness in personnel or their family members.
			❑ The minimum number and categories of personnel necessary to sustain EMS and non-emergent (medical) transport services on a day-to-day basis have been determined.
			❑ Contingency staffing plans have been developed in collaboration with other local EMS and non-emergent (medical) transport providers.
			❑ Hospitals and regional planning groups have been consulted regarding contingency staffing resources.
			❑ Anticipated consumable resource needs (e.g., masks, gloves, hand hygiene products) have been estimated.
			❑ A primary plan and contingency plan to address supply shortages have been developed. These include detailed procedures for the acquisition of supplies through normal channels and requesting resources for replenishing supplies when normal channels have been exhausted.
			❑ Plans include stockpiling at least a week's supply of resources when evidence exists that pandemic influenza has reached the United States.
			❑ An understanding of the process exists for requesting and obtaining assets for the organization made available through the community response plan.

MEDICAL OFFICES AND CLINICS PANDEMIC INFLUENZA PLANNING CHECKLIST

Planning for pandemic influenza is critical for ensuring a sustainable healthcare response. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist to help medical offices and ambulatory clinics assess and improve their preparedness for responding to pandemic influenza. This checklist is modeled after a pandemic preparedness checklist for hospitals and should be used in conjunction with guidance on healthcare preparedness planning in Supplement 3 of the HHS Pandemic Influenza Plan. Many of the issues included in the checklist are also relevant to other outpatient settings that provide episodic and chronic healthcare services (e.g., dental, podiatric, and chiropractic offices, ambulatory surgery centers, hemodialysis centers). Given the variety of healthcare settings, individual medical offices and clinics may need to adapt this checklist to meet their unique needs. Further information can be found at www.pandemicflu.gov.

This checklist identifies key areas for pandemic influenza planning. Medical offices and clinics can use this tool to identify the strengths and weaknesses of current planning efforts. Links to websites with information are provided throughout the document. However, actively seeking information that is available locally or at the state level will be necessary to complete the development of the plan. Also, for some elements of the plan (e.g., education and training programs), information may not be immediately available and it will be necessary to monitor selected websites for new and updated information.

1. Structure for planning and decision making.

Completed	In Progress	Not Started	
☐	☐	☐	Pandemic influenza has been incorporated into emergency management planning for the organization.
☐	☐	☐	A planning committee[1] has been created to specifically address pandemic influenza preparedness for the medical office or clinic.
☐	☐	☐	A person has been assigned responsibility for coordinating preparedness planning for the practice or organization (hereafter referred to as the pandemic influenza response coordinator). (Insert name, title and contact information) _____
☐	☐	☐	Members of the planning committee include the following: (Insert below or attach list with name, title and contact information for each) Administration: _____ Medical staff: _____ Nursing: _____ Reception personnel: _____ Environmental services (if applicable): _____ Clinic laboratory personnel (if applicable): _____ Other member(s): _____
☐	☐	☐	A point of contact (e.g., person assigned infection control responsibility for the organization or an outside consultant[2]) for questions/consultation on infection control measures to prevent transmission of pandemic influenza has been identified. (Insert name, title, and contact information) _____ _____

1. The committee could be very small (e.g., two or three staff members) or very large, depending on the size and needs of the organization.
2. Formal memorandum of understanding or contract may be needed if an outside consultant is used.

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2. Development of a written pandemic influenza plan.

Completed	In Progress	Not Started	
☐	☐	☐	Copies of relevant sections of the Department of Health and Human Services Pandemic Influenza Plan have been obtained from www.hhs.gov/pandemicflu/plan; copies of available state pandemic plans also should be obtained.
☐	☐	☐	A written plan has been completed or is in progress that includes the elements listed in #3 below.
☐	☐	☐	The plan describes the organizational structure that will be used to operationalize (i.e., lines of authority) the plan.
☐	☐	☐	The plan incorporates and compliments the community response plan.

3. Elements of an influenza pandemic plan.

Completed	In Progress	Not Started	
☐	☐	☐	**A plan is in place for surveillance and detection of pandemic influenza in the population served.**
			☐ Responsibility has been assigned for monitoring public health advisories (federal and state) and informing members of the pandemic influenza planning committee and/or the pandemic influenza response coordinator when pandemic influenza is in the United States and when it is nearing the geographic area (e.g., state and/or city). (For more information, see www.cdc.gov/flu/weekly/fluactivity.htm) (Insert name, title and contact information)
			_____
			☐ A system has been created to monitor and review influenza activity in patients cared for by clinical staff (i.e., weekly or daily number of patients calling or presenting to the office or clinic with influenza-like illness) and among medical office or clinic staff. (For more information see www.cdc.gov/flu/professionals/diagnosis/) (Monitoring for seasonal influenza activity is performed to ensure that the monitoring system for pandemic influenza will be effective and will ensure that organizations can detect stressors that may affect organizational capacity, such as staffing and supply needs, and hospital and emergency department capacity [and supply needs] during a pandemic)
			☐ A system is in place to report unusual cases of influenza-like illness and influenza to the local or state health department. (For more information see www.hhs.gov/pandemicflu/plan/sup1.html#outpat and www.hhs.gov/pandemicflu/plan/sup5.html#nov)
☐	☐	☐	**A communication plan has been developed.**
			☐ Key public health points of contact for pandemic influenza have been identified and arrangements have been made for telephone, facsimile, or e-mail messaging.
			Local health department contact: (Insert name, title and contact information)
			_____
			State health department contact: (Insert name, title and contact information)
			_____
			☐ The office or clinic's point person for external communication has been assigned. (Insert name, title and contact information)
			_____
			(Having one person who speaks with the health department, and if necessary, media, local politicians, etc., will help ensure consistent communication is provided by the organization)
			☐ A list has been created of healthcare entities and their points of contact (e.g., local hospitals/health facilities, home health care agencies, social service agencies, emergency medical services, commercial and clinical laboratories, relevant community organizations [including those involved with disaster preparedness]) with whom the medical office or clinic anticipates that it will be necessary to maintain communication and coordination of care during a pandemic. (Attach or insert location of contact list)
			_____
			_____

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
			❑ The pandemic response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on communication and coordination plans, including notification when updated plans are created. (For more information on state and local planning, see www.hhs.gov/pandemicflu/plan/part2.html#overview)
			❑ A list or database has been created with contact information on patients who have regularly-scheduled visits and may need to be contacted during a pandemic for purposes of rescheduling office visits or assigning them to another point of care. (Insert location of list/database)
			_____
			_____
❑	❑	❑	**A plan is in place to provide an education and training program to ensure that all personnel understand the implications of, and control measures for, pandemic influenza.**
			❑ A person has been designated to coordinate education and training (e.g., identify and facilitate access to education and training programs, maintain a record of attendance at education and training programs). (Insert name, title and contact information)
			_____
			❑ Current and potential opportunities for long-distance (e.g., web-based) and local (e.g., health department or hospital sponsored programs, programs offered by professional organizations or federal agencies) education of medical and nursing personnel have been identified. (http://www.cdc.gov/flu/professionals/training/)
			❑ Language and reading-level appropriate materials on pandemic influenza (e.g., available through state and federal public health agencies and professional organizations) appropriate for professional, allied and support personnel have been identified and a plan is in place for obtaining these materials. (For more information see www.cdc.gov/flu/professionals/patiented.htm)
			❑ Education and training includes information on infection control measures to prevent the spread of pandemic influenza. www.hhs.gov/pandemicflu/plan/sup4.html
❑	❑	❑	**Informational materials for patients on pandemic influenza that are language and reading-level appropriate for the population being served have been identified, and a plan is in place to obtain these materials. (For more information see www.cdc.gov/flu/professionals/patiented.htm)**
			❑ The roles of medical and nursing personnel in providing health care guidance for patients with pandemic influenza have been established.
❑	❑	❑	**A plan for triage and management of patients during a pandemic has been developed.**
			❑ A system is in place for phone (and e-mail, where appropriate) triage of patients to determine who requires a medical evaluation, to limit office visits to those that are medically necessary.
			❑ Plans have been developed to manage patient care at the height of the pandemic including the following possibilities: • Temporarily canceling non-essential medical visits (e.g., annual physicals). • Designating separate blocks of time for non-influenza and influenza-related patient care.
			❑ Local plans and criteria for the disposition of patients following a medical evaluation (e.g., hospitalization, home health care services, self- or family-based care at home) have been discussed with local hospital and health care agencies and local health department. (Flexibility will be necessary based on hospital bed capacity)
❑	❑	❑	**An infection control plan is in place and includes the following: (For information on infection control recommendations for pandemic influenza see www.hhs.gov/pandemicflu/plan/sup4.html)**
			❑ A specific waiting room location has been designated for patients with symptoms of pandemic influenza that is segregated from other patients awaiting care. (This may not be feasible in very small waiting rooms, in which case the emphasis may be on use of masks as noted below)

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
			❑ A plan for implementing Respiratory Hygiene/Cough Etiquette is in place. (For more information see www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) • Signage (language appropriate) directing patients and those accompanying them to notify reception personnel if they have symptoms of pandemic influenza has been developed or a source of signage (e.g., CDC website above) has been identified. • Signage (language appropriate) on Respiratory Hygiene/Cough Etiquette instructing symptomatic persons to use tissues to cover their cough to contain respiratory secretions and perform hand hygiene has been developed or a source of signage (e.g., CDC website above) has been identified. • The plan includes distributing masks to symptomatic patients who are able to wear them (adult and pediatric sizes should be available), providing facial tissues, receptacles for their disposal and hand hygiene materials in waiting areas and examination rooms. • Implementation of Respiratory Hygiene/Cough Etiquette has been exercised during seasons when influenza and other respiratory viruses (e.g., respiratory syncytial virus, parainfluenza virus) are circulating in communities. • If patients with pandemic influenza will be evaluated in the same location as patients without an influenza-like illness, separate examination rooms have been designated for evaluation of patients with symptoms of pandemic influenza. • A policy is in place that requires healthcare personnel to use Standard (www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html) and Droplet Precautions (i.e., mask for close contact) (www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html) with symptomatic patients. • The policy includes protection of reception and triage personnel at initial points of patient encounter.
❑	❑	❑	**A vaccine and antiviral use plan has been developed.** ❑ Websites where current federal and/or state health department recommendations for the use and availability of pandemic influenza vaccines and antiviral medications have been identified. (for more information see www.hhs.gov/pandemicflu/plan/sup6.html) ❑ An estimate of the number of personnel and patients who would be targeted as first and second priority for receipt of pandemic influenza vaccine or antiviral prophylaxis, based on HHS guidance for use, has been developed. (www.dhhs.gov/nvpo/pandemicplan/annex6.pdf) (This estimate can be used for considering which patients may need to be notified first about vaccine or antiviral availability, anticipating staffing requirements for distribution of vaccines and antivirals, and for procurement purposes)
❑	❑	❑	**An occupational health plan has been developed and includes the following:** ❑ A liberal/non-punitive sick leave policy for managing personnel who have symptoms of or documented illness with pandemic influenza. The policy considers: • The handling of staff who become ill at work. • When personnel may return to work after recovering from pandemic influenza. • When personnel who are symptomatic, but well enough to work, will be permitted to continue working. • Personnel who need to care for their ill family members. ❑ A system for evaluating symptomatic personnel before they report for duty and tested during a non-pandemic influenza period. ❑ Mental health and faith-based resources that are available to provide counseling to personnel during a pandemic.

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
			❑ The management of personnel who are at increased risk for influenza complications (e.g., pregnant women, immunocompromised healthcare workers) by placing them on administrative leave or altering their work location.
			❑ The ability to monitor seasonal influenza vaccination of healthcare personnel.
			❑ The offer of annual influenza vaccine to medical office or clinic personnel.
❑	❑	❑	**Issues related to surge capacity (i.e., dealing with an influx of patients and staff and supply shortages) during a pandemic have been addressed. (For more information see** www.hhs.gov/pandemicflu/plan/sup3.html#surge)
			❑ Plans for managing a staffing shortage within the organization due to illness in personnel or their family members have been addressed.
			❑ Staff have been encouraged to develop their own family care plans for the care of dependent minors and seniors in the event community containment measures (e.g., "snow days," school closures) are implemented. (www.pandemicflu.gov/planguide/checklist.html; www.pandemicflu.gov/planguide/familyhealthinfo.html)
			❑ The minimum number and categories of personnel necessary to keep the office/clinic open on a given day have been determined.
			❑ Plans for either closing the office/clinic or recruiting temporary personnel during a staffing crisis have been addressed.
			❑ Anticipated consumable resource needs (e.g., masks, gloves, hand hygiene products, medical supplies) have been estimated.
			❑ A primary plan and contingency plan to address supply shortages have been developed and each details procedures for acquisition of supplies through normal channels, as well as requesting resources when normal channel resources have been exhausted.
			❑ Plans include stockpiling at least a week's supply of consumable resources, including all necessary medical supplies, when there is evidence that pandemic influenza has reached the United States.

HOME HEALTH CARE SERVICES PANDEMIC INFLUENZA PLANNING CHECKLIST

Planning for pandemic influenza is critical. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention have developed the following checklist to help public and private organizations that provide home health care services assess and improve their preparedness for responding to pandemic influenza. Home health agencies will likely be called upon to provide care for patients who do not require hospitalization for pandemic influenza, or for whom hospitalization is not an option because hospitals have reached their capacity to admit patients. These agencies may become overburdened very quickly and shortages of personnel and supplies for providing home health care may occur. This checklist is modeled after the one included in the HHS Pandemic Influenza Plan (www.hhs.gov/pandemicflu/plan/sup3.html#app2). The list is comprehensive but not complete; each home care agency will have unique and unanticipated issues that will need to be addressed as part of a pandemic planning exercise. Also, some items on the checklist may not be applicable to a given agency. Collaboration with hospitals, local pandemic planning committees and public health agencies will be essential to ensure that the affected population receives needed health care services. Further information can be found at www.pandemicflu.gov.

This checklist identifies key areas for pandemic influenza planning. Home health care organizations can use this tool to identify the strengths and weaknesses of current planning efforts. Links to websites with information are provided throughout the document. However, actively seeking information that is available locally or at the state level will be necessary to complete the development of the plan. Also, for some elements of the plan (e.g., education and training programs), information may not be immediately available and it will be necessary to monitor selected websites for new and updated information.

1. Structure for planning and decision making.

Completed	In Progress	Not Started	
☐	☐	☐	Pandemic influenza has been incorporated into emergency management planning for the organization.
☐	☐	☐	A planning committee has been created to specifically address pandemic influenza preparedness.
☐	☐	☐	A person has been assigned responsibility for coordinating preparedness planning (hereafter referred to as the pandemic response coordinator) for the practice or organization. (Insert name, title and contact information) _____
☐	☐	☐	Members of the planning committee1 include the following: (Insert name, title and contact information for each) Administration: _____ Nursing: _____ Clerical: _____ Other: _____
☐	☐	☐	A point of contact has been identified for questions/consultation on infection control (e.g., hospital- or state health department-based infection control professional, healthcare epidemiologist). (Insert name, title, and contact information) _____

2. Development of a written pandemic influenza plan.

Completed	In Progress	Not Started	
☐	☐	☐	Copies of relevant sections of the Department of Health and Human Services Pandemic Influenza Plan have been obtained. (www.hhs.gov/pandemicflu/plan/)
☐	☐	☐	Copies of available state and/or local pandemic influenza plans have been obtained.
☐	☐	☐	A written plan has been completed or is in progress that includes the elements listed in #3 below.
☐	☐	☐	The plan describes the organizational structure (i.e., lines of authority, function and assignment of responsibility) that will be used to operationalize the plan.
☐	☐	☐	The plan complements2 local response plans in communities served by the home health care agency.

1. The committee could be very small (e.g., two or three staff members) or very large, depending on the size and needs of the organization. Members of the "group of professional personnel" required by CMS as one of the Home Health Agency Conditions of Participation should be included on the planning committee.
2. As communities develop their pandemic response plans, the provision of home health care will be a pivotal concern. Home health care agencies should have input into these plans to ensure there are no conflicts between what the agency can provide and what the community expects.

3. Elements of an influenza pandemic plan.

Completed	In Progress	Not Started	
❑	❑	❑	**A plan is in place for monitoring for pandemic influenza in the population served.**
			❑ Responsibility has been assigned for monitoring national and state public health advisories (e.g., www.cdc.gov/flu/weekly/fluactivity.htm) and updating members of the pandemic influenza planning committee when cases of pandemic influenza have been reported in United States and in the geographic area. (Insert name, title, and contact information) _____
			❑ A system has been created to monitor influenza-like illness in patients cared for in the home (i.e., weekly or daily number of patients with influenza-like illness). www.cdc.gov/flu/professionals/diagnosis/ (Having a system for tracking illness trends during seasonal influenza will ensure that organizations can detect stressors that may affect operating capacity, including staffing and supply needs, during a pandemic.)
			❑ A system is in place to report unusual cases of influenza-like illness and influenza-related deaths to local health authorities.
❑	❑	❑	**A communication plan has been developed and includes the following information:**
			❑ Key public health points of contact for pandemic influenza have been identified. (Insert name, title, and contact information for each)
			❑ Local health department _____
			❑ State health department _____
			❑ Local emergency management _____
			❑ The organization's point person for external communication (e.g., with hospitals, nursing homes, health departments, social services agencies) has been assigned. (Insert name, title and contact information)
			❑ A list has been created of healthcare entities and their points of contact (e.g., other home care services providers, local hospitals, residential care facilities, social service agencies, emergency medical services providers, health centers and rural health facilities, relevant community organizations [including those involved with disaster preparedness]) with whom the home care agency anticipates that it will be necessary to maintain communication and coordination of care during a pandemic. (Insert location of contact list): _____
			❑ The pandemic response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on communication and coordination of plans.
			❑ The pandemic response coordinator has contacted other home care services providers in the area regarding their pandemic influenza planning efforts. (Whenever possible, home care agencies should consider joint planning and coordination opportunities.)
❑	❑	❑	**An education and training program has been developed to ensure that all personnel understand the implications of, and control measures for, pandemic influenza and the current community response plan. (For more information on the scope of recommended education and training, see www.hhs.gov/pandemicflu/plan/sup3.html#edutrain)**
			❑ A person has been designated to coordinate education and training (e.g., identify and facilitate access to education and training programs, ensure that home care personnel attend, and maintain a record of attendance). (Insert name, title, and contact information): _____
			❑ Current and potential sites have been identified for long-distance (e.g., web-based programs offered by professional associations or federal agencies) and local (e.g., health department or hospital sponsored programs) education of home care personnel. (www.cdc.gov/flu/professionals/training/)
			❑ Language and reading-level appropriate materials have been identified on pandemic influenza (e.g., available through state and federal public health agencies and professional organizations) and a plan is in place for obtaining these materials.
			❑ The education and training program includes information on infection control measures to prevent the spread of pandemic influenza, including information on measures home health care personnel should apply during home care of patients. (For further information on infection control recommendations for home care, see www.hhs.gov/pandemicflu/plan/sup4.html#care)

3. Most home health agencies will already have a list of healthcare organizations and points of contact that can be used for this purpose.

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	**Informational materials on pandemic influenza for patients and their families have been identified that are language and reading-level appropriate for the population being served and a plan is in place to obtain and disseminate these materials.**
			❑ Materials have been identified or developed to guide family members on infection control and care of patients with pandemic influenza in the home. www.pandemicflu.gov/plan/tab3.html
			❑ Patients and families are encouraged to maintain a 30-day supply of medications and medical supplies as well as a two-week supply of non-perishable food and water.
❑	❑	❑	**A plan has been developed for the management of patients during a pandemic, which covers the following issues:**
			❑ Plans have been developed to manage patient care during the height of a pandemic to accommodate the increased number of patients who will need home care services.
			❑ The scope of services that the agency will provide and those that will be denied or referred to other providers has been clearly defined.
			❑ The role and responsibility of the agency regarding distribution of infection control supplies (e.g., masks, hand hygiene materials), food, medications, and other necessities in the home to patients and their families has been discussed with a local or regional pandemic influenza planning group.
			❑ Plans include decision tools for determining which patients can have altered service schedules based on their health conditions, needs, and available resources.
			❑ Local plans and criteria for the disposition of patients have been discussed with area hospitals and other home care agencies. (Hospitals may discharge patients to home and home health care agencies early to free-up bed space for critically ill patients.)
			❑ The plan considers how social service agencies (e.g., Red Cross, Salvation Army) will help meet the needs of families in the community (e.g., by providing child- or elder-care meals, shopping services) in homes where there are patients with pandemic influenza, particularly where the primary adult support person living in the home is ill.
			❑ The plan considers how the agency will maintain a database of clients who require electrically-dependent technology-driven care (e.g., ventilators, breathing treatments, suction, pumps, turning devices), oxygen, special nutrition requirements, dialysis, etc.
❑	❑	❑	**An infection control plan is in place and includes the following:**
			❑ An infection control policy for the care of pandemic influenza patients in the home. (www.hhs.gov/pandemicflu/plan/sup4.html and www.cdc.gov/flu/professionals/infectioncontrol/)
			❑ The policy requires healthcare personnel to use Standard (www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html and Droplet Precautions (i.e., mask for close contact) (www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html) with symptomatic patients.
			❑ A list has been developed of supplies (e.g., surgical masks, gloves, alcohol-based hand hygiene products) that will be used during home care of patients with pandemic influenza.
❑	❑	❑	**An occupational health plan has been developed that includes the following:**
			❑ A liberal/non-punitive sick leave policy for managing home care personnel who have symptoms of, or documented illness with, pandemic influenza. The policy considers: • The handling of staff who become ill at work • When personnel may return to work after recovering from pandemic influenza • When personnel who are symptomatic, but well enough to work, will be permitted to continue working
			❑ A system for evaluating symptomatic personnel before they report for duty has been developed and tested during a non-pandemic (e.g., seasonal) influenza period.
			❑ Mental health and faith-based resources have been identified that are available to provide counseling to personnel during a pandemic.
			❑ The management of personnel who are at increased risk for influenza complications (e.g., pregnant women, immunocompromised healthcare workers) has been addressed by placing them on administrative leave or altering their work location
			❑ Staff have been encouraged to develop their own family care plans for the care of dependent minors and seniors in the event community containment measures (e.g., "snow days," school closures) are implemented and for possible illness in adult family members.
			❑ The agency has the ability to monitor influenza vaccination of healthcare personnel.
			❑ Influenza vaccine is offered or made available on an annual basis to healthcare personnel.

3. Elements of an influenza pandemic plan. *(continued)*

Completed	In Progress	Not Started	
❑	❑	❑	**A vaccine and antiviral use plan has been developed.** ❑ Websites containing current federal and state health department recommendations for the use and availability of vaccines and antiviral medications have been identified. (www.cdc.gov/flu/professionals/vaccination/) ❑ An estimate has been developed of the number of personnel who would be targeted as first and second priority for receipt of pandemic influenza vaccine and antiviral prophylaxis, based on HHS guidance for use. (www.hhs.gov/pandemicflu/plan/appendixd.html) ❑ The potential role of the home health care organization in the distribution of vaccine and antivirals in the community has been discussed with the local health department and/or regional pandemic planning committee.
❑	❑	❑	**Issues related to surge capacity during a pandemic have been addressed.** ❑ A plan is in place for managing a staffing shortage within the organization due to illness in personnel or their family members. ❑ The minimum number and categories of nursing staff and other professional personnel necessary to sustain home care services for a given number of patients or on a day-to-day basis have been determined. Cross-training (where applicable) has been implemented. ❑ Priorities for providing care have been established. ❑ Contingency staffing plans have been developed for either limiting home care access or recruiting temporary personnel during a staffing crisis. ❑ Hospitals and other appropriate healthcare service providers have been consulted regarding contingency staffing resources. ❑ Anticipated consumable resource needs (e.g., masks, gloves, hand hygiene products) have been estimated. ❑ A primary plan and contingency plan to address supply shortages have been developed, including detailed procedures for acquisition of supplies through normal channels as well as requesting resources for replenishing supplies when normal channels have been exhausted. ❑ Plans include stockpiling at least a week's supply of resources when there is evidence that the potential for pandemic influenza has reached the United States. ❑ There is an understanding of the process for requesting and obtaining assets (e.g., personal protective equipment, medical supplies) made available through the community's response plan. ❑ Information has been obtained on local and regional plans and resources for dealing with mass fatalities including removal of the deceased from the home.

March 1, 2006
Version 5

LONG-TERM CARE AND OTHER RESIDENTIAL FACILITIES PANDEMIC INFLUENZA PLANNING CHECKLIST

Planning for pandemic influenza is critical for ensuring a sustainable healthcare response. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed this checklist to help long-term care and other residential facilities assess and improve their preparedness for responding to pandemic influenza. Based on differences among facilities (e.g., patient/resident characteristics, facility size, scope of services, hospital affiliation), each facility will need to adapt this checklist to meet its unique needs and circumstances. This checklist should be used as one tool in developing a comprehensive pandemic influenza plan. Additional information can be found at www.pandemicflu.gov. Information from state, regional, and local health departments, emergency management agencies/authorities, and trade organizations should be incorporated into the facility's pandemic influenza plan. Comprehensive pandemic influenza planning can also help facilities plan for other emergency situations.

This checklist identifies key areas for pandemic influenza planning. Long-term care and other residential facilities can use this tool to self-assess the strengths and weaknesses of current planning efforts. Links to websites with helpful information are provided throughout this document. However, it will be necessary to actively obtain information from state and local resources to ensure that the facility's plan complements other community and regional planning efforts.

1. Structure for planning and decision making.

Completed	In Progress	Not Started	
☐	☐	☐	**Pandemic influenza has been incorporated into emergency management planning and exercises for the facility.**
☐	☐	☐	**A multidisciplinary planning committee or team[1] has been created to specifically address pandemic influenza preparedness planning.**
			(List committee's or team's name.) _____
☐	☐	☐	**A person has been assigned responsibility for coordinating preparedness planning, hereafter referred to as the pandemic influenza response coordinator. (Insert name, title and contact information.)** _____
☐	☐	☐	**Members of the planning committee include (as applicable to each setting) the following: (Develop a list of committee members with the name, title, and contact information for each personnel category checked below and attach to this checklist.)**

- ☐ Facility administration
- ☐ Medical director
- ☐ Nursing administration
- ☐ Infection control
- ☐ Occupational health
- ☐ Staff training and orientation
- ☐ Engineering/maintenance services
- ☐ Environmental (housekeeping) services
- ☐ Dietary (food) services
- ☐ Pharmacy services
- ☐ Occupational/rehabilitation/physical therapy services
- ☐ Transportation services
- ☐ Purchasing agent
- ☐ Facility staff representative
- ☐ Other member(s) as appropriate (e.g., clergy, community representatives, department heads, resident and family representatives, risk managers, quality improvement, direct care staff, collective bargaining agreement union representatives)

1. An existing emergency or disaster preparedness team may be assigned this responsibility.

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1. Structure for planning and decision making *(continued)*.

Completed	In Progress	Not Started	
☐	☐	☐	Local and state health departments and provider/trade association points of contact have been identified for information on pandemic influenza planning resources. (Insert name, title and contact information for each.) Local health department contact: _____ State health department contact: _____ State long-term care professional/trade association: _____ _____
☐	☐	☐	Local, regional, or state emergency preparedness groups, including bioterrorism/communicable disease coordinators points of contact have been identified. (Insert name, title and contact information for each.) City: _____ County: _____ Other regional: _____
☐	☐	☐	Area hospitals points of contact have been identified in the event that facility residents require hospitalization or facility beds are needed for hospital patients being discharged in order to free up needed hospital beds. (Attach a list with the name, title, and contact information for each hospital.)
☐	☐	☐	The pandemic influenza response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on coordinating the facility's plan with other influenza plans.

2. Development of a written pandemic influenza plan.

Completed	In Progress	Not Started	
☐	☐	☐	Copies have been obtained of relevant sections of the HHS Pandemic Influenza Plan (available at www.hhs.gov/pandemicflu/plan/) and available state, regional, or local plans are reviewed for incorporation into the facility's plan.
☐	☐	☐	The facility plan includes the elements listed in #3 below.
☐	☐	☐	The plan identifies the person(s) authorized to implement the plan and the organizational structure that will be used.

3. Elements of an influenza pandemic plan.

Completed	In Progress	Not Started	
☐	☐	☐	**A plan is in place for surveillance and detection of the presence of pandemic influenza in residents and staff.** ☐ A person has been assigned responsibility for monitoring public health advisories (federal and state), and updating the pandemic response coordinator and members of the pandemic influenza planning committee when pandemic influenza has been reported in the United States and is nearing the geographic area. For more information, see www.cdc.gov/flu/weekly/fluactivity.htm. (Insert name, title and contact information of person responsible.) _____ _____ ☐ A written protocol has been developed for weekly or daily monitoring of seasonal influenza-like illness in residents and staff. For more information, see www.cdc.gov/flu/professionals/diagnosis/. (Having a system for tracking illness trends during seasonal influenza will ensure that the facility can detect stressors that may affect operating capacity, including staffing and supply needs, during a pandemic.) ☐ A protocol has been developed for the evaluation and diagnosis of residents and/or staff with symptoms of pandemic influenza. ☐ Assessment for seasonal influenza is included in the evaluation of incoming residents. There is an admission policy or protocol to determine the appropriate placement and isolation of patients with an influenza-like illness. (The process used during periods of seasonal influenza can be applied during pandemic influenza.)

3. Elements of an influenza pandemic plan *(continued)*.

Completed	In Progress	Not Started	
			❑ A system is in place to monitor for, and internally review transmission of, influenza among patients and staff in the facility. Information from this monitoring system is used to implement prevention interventions (e.g., isolation, cohorting). (This system will be necessary for assessing pandemic influenza transmission.)
❑	❑	❑	**A facility communication plan has been developed.** **For more information, see www.hhs.gov/pandemicflu/plan/sup10.htm.**
			❑ Key public health points of contact during an influenza pandemic influenza have been identified. (Insert name, title and contact information for each.)
			❑ Local health department contact: _____
			❑ State health department contact: _____
			❑ A person has been assigned responsibility for communications with public health authorities during a pandemic. (Insert name, title and contact information.) _____
			_____
			❑ A person has been assigned responsibility for communications with staff, residents, and their families regarding the status and impact of pandemic influenza in the facility. (Having one voice that speaks for the facility during a pandemic will help ensure the delivery of timely and accurate information.)
			❑ Contact information for family members or guardians of facility residents is up-to-date.
			❑ Communication plans include how signs, phone trees, and other methods of communication will be used to inform staff, family members, visitors, and other persons coming into the facility (e.g., sales and delivery people) about the status of pandemic influenza in the facility.
			❑ A list has been created of other healthcare entities and their points of contact (e.g., other long-term care and residential facilities, local hospitals' emergency medical services, relevant community organizations [including those involved with disaster preparedness]) with whom it will be necessary to maintain communication during a pandemic. (Insert location of contact list and attach a copy to the pandemic plan.)
			_____
			❑ A facility representative(s) has been involved in the discussion of local plans for inter-facility communication during a pandemic.
❑	❑	❑	**A plan is in place to provide education and training to ensure that all personnel, residents, and family members of residents understand the implications of, and basic prevention and control measures for, pandemic influenza.**
			❑ A person has been designated with responsibility for coordinating education and training on pandemic influenza (e.g., identifies and facilitates access to available programs, maintains a record of personnel attendance). (Insert name, title, and contact information.) _____
			_____
			❑ Current and potential opportunities for long-distance (e.g., web-based) and local (e.g., health department or hospital-sponsored) programs have been identified. See www.cdc.gov/flu/professionals/training/.
			❑ Language and reading-level appropriate materials have been identified to supplement and support education and training programs (e.g., available through state and federal public health agencies such as www.cdc.gov/flu/groups.htm and through professional organizations), and a plan is in place for obtaining these materials.
			❑ Education and training includes information on infection control measures to prevent the spread of pandemic influenza.
			❑ The facility has a plan for expediting the credentialing and training of non-facility staff brought in from other locations to provide patient care when the facility reaches a staffing crisis.
			❑ Informational materials (e.g., brochures, posters) on pandemic influenza and relevant policies (e.g., suspension of visitation, where to obtain facility or family member information) have been developed or identified for residents and their families. These materials are language and reading-level appropriate, and a plan is in place to disseminate these materials in advance of the actual pandemic. For more information, see www.cdc.gov/flu/professionals/infectioncontrol/index.htm and www.cdc.gov/flu/groups.htm.

3. Elements of an influenza pandemic plan *(continued)*.

Completed	In Progress	Not Started	
❑	❑	❑	**An infection control plan is in place for managing residents and visitors with pandemic influenza that includes the following: (For information on infection control recommendations for pandemic influenza, see www.hhs.gov/pandemicflu/plan/sup4.html.)**
❑	❑	❑	An infection control policy that requires direct care staff to use Standard (www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html) and Droplet Precautions (i.e., mask for close contact) (www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html) with symptomatic residents.
❑	❑	❑	A plan for implementing Respiratory Hygiene/Cough Etiquette throughout the facility. (See www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm.)
❑	❑	❑	A plan for cohorting symptomatic residents or groups using one or more of the following strategies:[2] 1) confining symptomatic residents and their exposed roommates to their room, 2) placing symptomatic residents together in one area of the facility, or 3) closing units where symptomatic and asymptomatic residents reside (i.e., restricting all residents to an affected unit, regardless of symptoms). The plan includes a stipulation that, where possible, staff who are assigned to work on affected units will not work on other units.
❑	❑	❑	Criteria and protocols for closing units or the entire facility to new admissions when pandemic influenza is in the facility have been developed.
❑	❑	❑	Criteria and protocols for enforcing visitor limitations have been developed.
❑	❑	❑	**An occupational health plan for addressing staff absences and other related occupational issues has been developed that includes the following:**
❑	❑	❑	❑ A liberal/non-punitive sick leave policy that addresses the needs of symptomatic personnel and facility staffing needs. The policy considers: - The handling of personnel who develop symptoms while at work. - When personnel may return to work after having pandemic influenza. - When personnel who are symptomatic, but well enough to work, will be permitted to continue working. - Personnel who need to care for family members who become ill.
			❑ A plan to educate staff to self-assess and report symptoms of pandemic influenza before reporting for duty.
			❑ A list of mental health and faith-based resources that will be available to provide counseling to personnel during a pandemic.
			❑ A system to monitor influenza vaccination of personnel.
			❑ A plan for managing personnel who are at increased risk for influenza complications (e.g., pregnant women, immunocompromised workers) by placing them on administrative leave or altering their work location.
❑	❑	❑	**A vaccine and antiviral use plan has been developed.**
			❑ CDC and state health department websites have been identified for obtaining the most current recommendations and guidance for the use, availability, access, and distribution of vaccines and antiviral medications during a pandemic. For more information, see www.hhs.gov/pandemicflu/plan/sup6.html and www.hhs.gov/pandemicflu/plan/sup7.html.
			❑ HHS guidance has been used to estimate the number of personnel and residents who would be targeted as first and second priority for receipt of pandemic influenza vaccine or antiviral prophylaxis. For more information, see www.hhs.gov/pandemicflu/plan/sup6.html and www.hhs.gov/pandemicflu/plan/sup7.html.
			❑ A plan is in place for expediting delivery of influenza vaccine or antiviral prophylaxis to residents and staff as recommended by the state health department.

2. CDC guidance on preventing and controlling influenza transmission in long-term care facilities will be a useful resource during pandemic influenza. (See www.cdc.gov/flu/professionals/infectioncontrol/longtermcare.htm.)

3. Elements of an influenza pandemic plan *(continued)*.

Completed	In Progress	Not Started	
❑	❑	❑	**Issues related to surge capacity during a pandemic have been addressed.**
			❑ A contingency staffing plan has been developed that identifies the minimum staffing needs and prioritizes critical and non-essential services based on residents' health status, functional limitations, disabilities, and essential facility operations.
			❑ A person has been assigned responsibility for conducting a daily assessment of staffing status and needs during an influenza pandemic. (Insert name, title and contact information.)
			_____
			❑ Legal counsel and state health department contacts have been consulted to determine the applicability of declaring a facility "staffing crisis" and appropriate emergency staffing alternatives, consistent with state law.
			❑ The staffing plan includes strategies for collaborating with local and regional planning and response groups to address widespread healthcare staffing shortages during a crisis.
			❑ Estimates have been made of the quantities of essential materials and equipment (e.g., masks, gloves, hand hygiene products, intravenous pumps) that would be needed during a six-week pandemic.
			❑ A plan has been developed to address likely supply shortages, including strategies for using normal and alternative channels for procuring needed resources.
			❑ Alternative care plans have been developed for facility residents who need acute care services when hospital beds become unavailable.
			❑ Surge capacity plans include strategies to help increase hospital bed capacity in the community.
			- Signed agreements have been established with area hospitals for admission to the long-term care facility of non-influenza patients to facilitate utilization of acute care resources for more seriously ill patients.
			- Facility space has been identified that could be adapted for use as expanded inpatient beds and information provided to local and regional planning contacts.
			❑ A contingency plan has been developed for managing an increased need for post mortem care and disposition of deceased residents.
			❑ An area in the facility that could be used as a temporary morgue has been identified.
			❑ Local plans for expanding morgue capacity have been discussed with local and regional planning contacts.

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Pandemic Influenza Plan – Vaccine Storage and Distribution

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INTRODUCTION

Vaccination against the circulating pandemic virus is a major focus of pandemic response efforts. Vaccination is crucial in reducing morbidity and mortality, and in minimizing social disruption by maintaining essential services.

In response to the 2009 H1N1 influenza pandemic, public health authorities conducted a vaccination campaign to protect tens of millions of Americans from the virus. This was one of the biggest public health initiatives in U.S. history. The goal was to ensure that everyone who wanted to be vaccinated was able to be vaccinated. Providing one dose of vaccine to everyone in groups considered to be at high risk for serious complications would have required 159 million doses, a much greater task compared to 85 million people who are vaccinated annually for seasonal influenza. Funded by the federal government, vaccine was allocated to states in proportion to the size of their total population, regardless of the disease burden in each state and the number of state residents in the Advisory Committee on Immunization Practices (ACIP) target groups. Each state then developed its own plan to distribute and administer vaccine. Vaccine was shipped directly to public and private provider vaccination sites from the central distributor, based on orders placed by the states. States developed many kinds of distribution plans. Some states, such as Missouri, relied mostly on local health departments, which then distributed to other stakeholders. Other states distributed vaccine to a combination of state and local public health authorities, private healthcare providers, and pharmacies. A smaller number of states received all the states' vaccine supply and handled the physical redistribution to vaccine administrators themselves, a so-called centralized distribution model. The diversity in distribution methods across the country meant that neighboring jurisdictions often had different distribution systems. This caused confusion and communications challenges, some participants noted, especially in states in which each local health department developed its own distribution plan. Despite challenges caused by delays in supply, the identification of priority groups to receive the initial supply of vaccine, and associated public health messaging complexities, 61 million Americans were vaccinated in the first 3 months of the campaign.

OBJECTIVES

- Ensure timely and equitable distribution of pandemic vaccine.
- Track pandemic vaccine use across the state.
- Monitor pandemic vaccine safety.
- Ensure that the public and the health care providers have access to accurate and timely information on vaccine use and availability.

PLANNING ASSUMPTIONS

- In the beginning of the pandemic, it will not be known how quickly the pandemic vaccine will become available.
- Vaccine supply is likely to be limited during the early stages of the pandemic.
- Two doses of vaccine will be likely required to achieve a protective response from the vaccine.

- The effectiveness of the pandemic vaccine may be limited depending on the emergent strain.
- The amount of vaccine allocated and delivered to Missouri might not be adequate to vaccinate all persons in the high priority groups.

DHSS ACTIVITIES BY THE PANDEMIC INTERVAL

Pre-pandemic interval

- Provide information and tools for mass vaccination.
- Assess vaccine storage capacity within state and counties.
- Review vaccine storage and handling procedures.
- Estimate number of people in each pandemic virus vaccination priority group.
- Develop a plan on how persons in priority groups would be identified at vaccination clinics and how vaccine would be most efficiently provided to those groups.
- Develop a plan to vaccinate the remainder of the population after priority groups have been vaccinated.
- Discuss security provisions for vaccine supply.
- Review adverse event reporting procedure.
- Clarify responsibilities of community partners in vaccination.
- Identify potential funding sources to support vaccine related activities during pandemic.
- Monitor new pandemic developments, and modify existing vaccination plans as needed to reflect new recommendations.
- Identify sources of additional vaccinators if needed for surge.
- Assist local health departments to assess vaccine quantities needed based on priority levels.
- Develop a communications plan with Local Public Health Agencies (LPHAs) and a communications plan to the public.

Pandemic Interval

<u>Prior to Pandemic Vaccine Availability</u>

- Mobilize healthcare partners and prepare to activate plan for distributing and administering vaccines.
- Work with LPHAs and health care partners to distribute, deliver, administer, and track pre-pandemic or stockpiled vaccines to designated priority groups, if available.
- Work with Centers for Disease Control and Prevention (CDC) and other federal partners, vaccine manufacturers and public health organizations to establish plan for acquisition and distribution of initial vaccine supplies.
- Communicate new pandemic developments, and modify existing internal plans as needed to reflect new recommendations to LPHAs and the public, as necessary.
- Keep the healthcare and public health workforce up-to-date on projected timelines for availability of vaccines and the expected timeline for vaccine distribution.
- Review and update modifications, if any, to recommendations on vaccinating priority groups.
- Make any revisions of priority groups needed and communicate the changes to LPHAs and health care partners.
- Work with other governmental agencies and non-governmental organizations to ensure effective public health communications.

After Pandemic Vaccine Available for Distribution

- Work with LPHAs and health care partners to distribute, deliver, administer, and track pandemic vaccine to priority groups.
- Consider redistribution of vaccine as needed to provide an equitable geographic distribution of supplies.
- Continue to review and revise priority groups, and communicate changes to LPHAs and health care partners.
- Introduce vaccination of the rest of the population after priority groups have been vaccinated or demand from priority groups has waned.
- Maintain existing Vaccine Adverse Event Reporting System (VAERS) reporting procedures during pandemic.
- Work with Public Information Officers (PIOs) to provide timely and accurate public messages regarding vaccine availability and location of vaccine administration sites.

Vaccine Prioritization

Since during the initial stages of a pandemic supply of vaccine will be limited, the CDC and ACIP are likely to provide epidemiologic information and guidelines for the prioritization of pandemic vaccine distribution and use. During the H1N1 pandemic, the high risk groups previously defined as a priority for the seasonal influenza vaccination needed to be redefined for pandemic vaccination due to the different epidemiology of the pH1N1 virus. The Missouri Department of Health and Senior Services (DHSS) will use the CDC recommendations for guidance on how to specifically address vaccinating those prioritized for vaccine. Groups usually considered for vaccine prioritization include:

- Maintain essential services (e.g., homeland and national security, critical infrastructure).
- At high risk for contracting influenza during a pandemic (e.g., first responders, health care providers).
- At high risk for complications or death from the pandemic virus (e.g., young children, elderly, etc.).

Pandemic Vaccine Distribution

This vaccine will be distributed to local jurisdictions based on population. However, the Missouri Department of Health and Senior Services (DHSS) may allocate significant portions of the vaccine based on the epidemiology of the disease, with additional amounts being provided to those areas being more severely impacted early in the pandemic in terms of illnesses, deaths, or loss of critical infrastructure. DHSS has identified the ship-to site that will receive the bulk delivery of the pre-pandemic and pandemic vaccine into the state. Planning guidance from the United States Department of Health and Human Services (USDHHS) indicates that the 240,000-dose allocation will be received as one shipment. DHSS, in collaboration with the Missouri Department of Public Safety (DPS), will ensure the regional and local distribution of these vaccines to pre-determined sites. Local emergency management, public health and public safety authorities, in conjunction with the state authorities, will play key roles in ensuring the safe and proper storage and handling of the vaccine. DHSS will develop a memorandum of understanding with DPS to establish roles and responsibilities.

The pre-pandemic vaccine

The pre-pandemic vaccine will be administered per the tiered priority structure through those methods deemed most appropriate by local authorities, in accordance with minimal levels of handling as established and verified by the state. The local public health authority will be the lead in ensuring proper vaccine distribution and administration. These methods may include clinics at the site of the prioritized recipients, through mass clinics, and through other distribution and administration structures as best fits the needs and resources of each local community. Minimal levels of handling to be followed are those established through Missouri's Vaccines for Children (VFC) program. (See Attachments A, B and C.)

Pandemic Vaccine

When vaccine will be made available, the DHSS will order from weekly allocations of the vaccine to be shipped by the centralized distributor to the designated ship-to site(s). The designated ship-to sites would include LPHAs that could then further distribute the vaccine to other private providers or administer the vaccine to local residents. In some local jurisdictions, the LPHA may choose to also have private providers designated as ship-to sites to expedite the distribution process. DHSS will allocate vaccine to local jurisdictions according to the number of persons in priority groups, general population, and the disease burden.

Vaccine Logistics and Security

Logistics and security at the state level will be the dual responsibility of DHSS and DPS, and at the local level by local public health and law enforcement with state support.

- Vaccine will be shipped from the manufacturer or distributor to the state ship-to site.
- DHSS will maintain, on a real-time basis, a database inventory of each dose of vaccine that is shipped from the manufacturer or distributor and received at each ship-to site. Ship-to sites will maintain, on a real-time basis, an inventory of vaccine in stock, the manufacturer, lot numbers, expiration dates for each lot, and a record of each dose of vaccine transferred to any clinics designated to conduct the vaccination clinics. All such data will be transmitted to DHSS electronically, and DHSS will transmit it to CDC.

Local Clinic Sites and Administration

- Based on experience during the H1N1 event, the LPHAs would work within their jurisdiction to conduct mass vaccination clinics that would be effective in reaching the priority populations. Many LPHAs would collaborate with private providers in organizing and conducting the clinics.
- In the event that the Strategic National Stockpile for Missouri is activated, a State Security Officer will be identified in the memoranda of agreement. Security for additional transport for vaccine administration to on-site priority groups or for administration at clinics outside the sites will be the responsibility of local law enforcement, with state support. Local authorities will ensure that they have a workable security plan in place to continue dispensing operations. DHSS and DPS will review security plans during the monitoring process and provide technical planning assistance. State public health and public safety staff will work with local authorities to assist them in establishing relationships to assure the security of the vaccine and the orderly operation of vaccine clinics. Protocols will be established with guidance from DPS and DHSS. DPS will provide assistance with site vulnerability assessments.

- Local authorities will need to implement a system of staff security and identification and in addition implement a system of pre-identifying those in the priority groups. This system must be able to function effectively while stressed. Staffing plans will be the responsibility of each allocation site. The system employed can be designed to best suit local needs and resources but must pass review by the state. Incidents will be managed at local sites and reported to the state as needed.
- All handling of the vaccine and management of clinics, including transportation and storage environment, must be done according to the stipulations from the Centers for Disease Control and Prevention. The local public health agency (LPHA) has primary responsibility to ensure this compliance. This may include providing a vaccine site manager for each site (see Attachments A, B, C, and D). The practices will be monitored by the DHSS, Bureau of Immunization Assessment and Assurance (BIAA) staff through regular site visits and the routine communication via e-mail, fax, regular mail, and phone.
- In the event that the Strategic National Stockpile for Missouri is activated, a DHSS site manager will be assigned to the state storage and distribution site to ensure compliance with vaccine transportation and storage requirements.
- Refrigeration devices at sites will be maintained according to manufacturer and DHSS recommendations. Refrigeration units must be validated by LPHA staff or staff from the Vaccines for Children Program before shipment of vaccines may be received. Refrigerators must have calibrated thermometers that will be monitored and recorded twice daily. If temperatures are outside acceptable ranges, the LPHA will contact the manufacturer for appropriate instructions.
- Vaccine inventories will be tracked in a DHSS-provided database.
- Vaccine balances will be tracked daily.

Vaccine Administration and Tracking

Ideally, the Immunization Registry (ShowMeVax) would be used to track pandemic influenza vaccines administered. However, based on experience gained during H1N1 and depending on the clinic logistics, response and time constraints, this might not be feasible. If it was not possible for all the individual records to be entered into ShowMeVax, aggregate reporting of vaccines administered would be required of the LPHAs and private providers. Providers (LPHAs and private providers) will use ShowMeVax to record pandemic influenza immunizations. Data transmissions will be made into the Countermeasures Response Administration (CRA) system.

- LPHAs have extensive guidance procedures for screening patients and administering vaccines, as well as for storing, handling, and accounting for vaccines. LPHAs will ensure staff that provides vaccines be trained and demonstrate competency in the assessment and administration of vaccine. Job descriptions will include vaccine administration and related duties associated with the activities of safe handling and storage of vaccine. BIAA provides written guidance as well as technical support (see Attachments A, B and C). Those documents refer providers to other resources for more specific information, such as the CDC's *Epidemiology and Prevention of Vaccine-Preventable Diseases,* guidance on the website of the National Center for Immunization and Respiratory Diseases, and Vaccine Information Statements.
- Based on experience gained during H1N1, it is evident that, depending on the clinic logistics, response and time constraints, it might not be feasible for all the individual records to be

entered into ShowMeVax. In that situation, aggregate reporting of vaccines administered would be required of the LPHAs and private providers.
- Any adverse event reported will be entered into VAERS.
- In the event that a second dose of vaccine is required, recipients will be recalled for the second dose based on the information in the database.

Clinic Operations and Management
Trained DHSS staff will be available to conduct site visits at the request of the LPHA to provide technical assistance for proper vaccine handling, documentation, dating, storage, and overall maintenance of the vaccine.

Vaccine Safety Monitoring, Reporting, Treatment, and Patient Referral
VAERS reports should go directly to the VAERS site. The DHSS will provide technical assistance and communicate with CDC on all aspects of vaccine adverse event reporting. Vaccine safety education will be done by BIAA to providers statewide.
- The Division of Community and Public Health (DCPH) has established a legal basis for reporting adverse events using criteria developed for the federal Vaccine Adverse Events Reporting System (VAERS). The VAERS safety coordinator position is housed in BIAA.
- DHSS and the LPHAs will utilize CDC's clinic guidelines, screening forms, and fact sheets to educate individuals concerning possible adverse events.
- A DHSS workgroup will identify information that must be captured to provide appropriate follow-up of primary vaccines, including adverse reactions. The workgroup will utilize federal disease reporting forms to capture this information. DHSS will educate medical care providers and LPHAs regarding adverse reactions and reporting requirements. LPHAs will educate patients about reporting adverse events. Adverse events that occur at the vaccinating clinics will be treated and reported at the time of vaccination.
- DHSS will utilize a toll-free telephone number to enhance reporting of adverse reaction.
- Medical care providers will report to VAERS vaccine adverse reactions. LPHAs will provide follow up in consultation with DHSS and with logistical support from DHSS as needed.
- DHSS will report adverse reactions and investigation findings to CDC.

Resources

Department of Health and Human Services:
http://www.hhs.gov/pandemicflu/plan/vaccine/prioritization.html

Institute of Medicine. 2010. "The 2009 H1N1 influenza vaccination campaign: Summary of a workshop series". Washington DC: *The National Academies Press.*

Missouri Vaccines for Children, LPHA Program Manual, 2010:
Available upon request

Vaccine Adverse Events Reporting System:
www.vaers.hhs.gov/

Report from Secretary Michael O. Leavitt, U.S. Department of Health and Human Services, July 18, 2007:
http://www.flu.gov/professional/panflureport4.html

The CDC's detailed guidance on how vaccine will be prioritized by tier and according to the severity of pandemic is available on the pandemic flu website:
www.pandemicflu.gov/professional/federal/index.html

Attachment A

VACCINE COLD CHAIN PROTOCOL

MISSOURI VACCINES FOR CHILDREN PROGRAM

POST IN A CONSPICUOUS PLACE

Required Temperatures:
Refrigerator:
35-46 Degrees Fahrenheit
2-8 Degrees Celsius
Freezer:
5 Degrees Fahrenheit or below
-15 Degrees Celsius or below

"Maintaining the cold chain" means keeping vaccines at the recommended temperature. The cold chain begins at the manufacturer, extends to the distributor and continues at the provider until the vaccine is administered. Proper vaccine temperature must be maintained during transit and at every link in the chain to ensure its viability. The importance of maintaining the cold chain cannot be overstated. When the cold chain is not maintained, the vaccine may cease to be effective and will not provide protection from disease. **Any vaccine suspect of cold chain violation should be segregated from viable vaccine and NOT USED until the manufacturer determines viability.**

The **Vaccine Cold Chain Protocol** provides vaccine handling guidelines and action steps for health care providers in the event of a vaccine cold chain failure.

Cold chain failure occurs when there is a break in any link of this chain. Cold chain failure may occur due to a power outage, equipment failure, staff error, etc. To prevent vaccine cold chain failure, it is essential to have properly functioning equipment, appropriately trained staff, clearly written procedures and easily accessible emergency operating protocols for handling vaccines.

Immunization Providers Utilizing Vaccine Supplied by the VFC Program shall:

- Develop and maintain a current written Vaccine Emergency Plan, providing guidelines to ensure vaccine cold chain maintenance to include:
  - Identification of an alternative storage facility (i.e., hospital, packing plant, local public health agency, nursing home, fire department, etc.) with back-up power (generator) where the vaccine can be stored and monitored during a power failure.

- Identification of staff responsible to pack and move vaccine during an emergency.
- Maintenance of a supply of appropriate packing materials (insulated containers; the type vaccines are shipped in not soft side or high peaked, gel/ice packs, facility where dry ice will be purchased, etc.).
- Identification of transportation to move vaccine to a secure storage facility during an emergency.
- Establishment of procedures to monitor vaccine temperature during transport to confirm its viability with the manufacturer upon its return.

Policies/procedures will be available for review by program representatives as requested. A template is attached for use in preparing a Vaccine Emergency Plan (attached).

Protocol for *Suspected* Vaccine Cold Chain Failure, the Provider shall:

- **Within 24 hours:**
  - Inventory all vaccines determined to have been stored at inappropriate temperatures. They should be labeled **"DO NOT USE."** Store potentially compromised vaccines at proper refrigerator/freezer temperatures while assessing viability.
  - Contact the VFC Program at (800) 219-3224. Be prepared to provide:
    - **Ambient room temperature**
    - **Vaccine storage unit temperature**
    - **Estimated duration of event**
    - **Vaccine name**
    - **Lot number**
    - **Expiration date**
    - **Number of doses at risk**

- **The VFC program representative will investigate and determine what to do with the vaccine, and the provider will be given instructions on returning vaccine for credit.**

Protocol for *Confirmed* Vaccine Cold Chain Failure, the Provider shall:

- **No later than 24 hours of the confirmed cold chain failure:**
  - Notify the VFC Program.
  - Contact the vaccine manufacturer for guidance and provide the following information:
    - **Ambient room temperature**
    - **Vaccine storage unit temperature**
    - **Estimated duration of event**
    - **Vaccine name**
    - **Lot number**
    - **Expiration date**
    - **Number of doses lost**

- Return non-viable vaccines (full, unopened vials only) to the VFC vaccine distributor, McKesson Specialty Distribution, using vaccine return packing slip within 15 days.
- Review patient records to identify persons receiving vaccines during the identified cold chain failure periods as deemed necessary by the VFC Program and/or the manufacturer.
- Compile and submit a Corrective Action Plan to the VFC Program outlining the steps to identify, recall and revaccinate persons within one week.
- Contact identified persons and/or appropriate parent/guardian by telephone or written correspondence with the following information within 30 days of approval of the Corrective Action Plan.
  - **Purpose of recall**
  - **Need for revaccination**
  - **Information about available clinics and times for revaccination**
- Schedule clinics and appointments to revaccinate persons vaccinated during the cold chain failure event as identified in the Corrective Action Plan.
- Document appropriate vaccination information on the person's immunization record or provide an immunization record with the appropriate vaccination information at the time of revaccination.
- Instruct the appropriate parent/guardian of a revaccinated child to provide revaccination information immediately to the child's school and/or childcare facility.
- Keep an ongoing log with the following:
  - Number of persons revaccinated; and
  - Number of doses and date of each vaccine administered.

Submit status report **each Monday for the preceding week** to the VFC Program. The report must include:

- Names of patients revaccinated
- Vaccines administered
- Documentation of parental refusal to revaccinate

Provide proper vaccine storage and handling guidelines and vaccine administration protocols to each new employee, continually review and document this information with the staff to assure optimal cold chain practices.

EMERGENCY RESPONSE PLAN

Your Emergency Response Plan will include: actions to be taken in the event of refrigerator or freezer malfunction, power failure, natural disasters or other emergencies that might compromise appropriate vaccine storage condition.

Reminder: Your **Vaccine Emergency Response Plan** needs to be updated annually and submitted with your annual VFC application forms. All staff should review, sign and date the emergency response plan on annual basis or when there is a change in staff that has responsibilities specified to the emergency plan.

If your facility already has a written Emergency Response Plan, you may submit that document with annual application forms, but the document must include all of the following components.

Facility Name: _____

Primary Person Responsible: _____ Phone: _____ Cell: _____
Secondary Person Responsible: _____ Phone: _____ Cell: _____
Person with 24 hour access to building: _____ Phone: _____ Cell: _____

For a Power Outage: If your facility does not have a generator, identify at least one location with a generator (hospital, pharmacy, fire station) that may be used for a back-up location for vaccine storage.

Who will be notified in the event of a power outage?

1. Contact's name: _____ Phone: _____ Cell: _____
2. Contact's name: _____ Phone: _____ Cell: _____
3. Alarm company name (if applicable): _____ Phone: _____
4. Alternate storage facility (if applicable): _____ Phone: _____

HOW will you be notified of a power outage at your facility (alarm, phone call, paging service)?
(Insert description of how the responsible person will be notified.)

Succession of notification: Who will be notified first, second, third etc.
(Insert order of persons being notified.)

_____

My facility has a generator: Who will turn on the generator and maintain it (supplying gasoline if needed) during the power outage? Name: _____

WHEN entering the vaccine storage facility, please do the following:

- ❑ Utilize the (insert which entrance) _____ of the building.
- ❑ Flash Lights will be located on the _____
- ❑ Circuit breakers may be checked and box is located _____

Determine if vaccine will need to be transported. How long will the power likely be out?
Power Company phone number: _____

WHO will transport the vaccine (yes you may use your own vehicle). Vaccines will not be transported in the trunk of a vehicle.): Name: _____

- ❑ Dry Ice is available at: _____ Phone: _____

- ❑ Ice/Gel packs to use will be located in freezers in the vaccine storage units.
- ❑ Insulated containers (Styrofoam or vaccine shipping boxes) needed for transport will be kept at: _____
- ❑ Bubble wrap or other barrier will be kept at: _____

CALL: Before transporting vaccine, call the back-up location site to ensure that their generator is working and they are aware you will be transporting vaccine to them. Assure that they are aware of how to properly store and maintain the vaccine while it is in their possession.

Name: (contact person at back-up site) _____ Phone: _____

Documentation: Using the **Emergency Response Worksheet** to document current temperatures of the unit and the vaccines affected with expiration dates and **Conduct** and record an inventory before you transport the vaccine.

Label vaccines or container as belonging to your facility.

Vaccines must be transported in an insulated container with a BARRIER separating the vaccines from the Gel/Ice packs.

Refrigerator Vaccine: To pack for transport, place ice packs or refrigerated gel packs in the bottom of container, lay a barrier (bubble wrap, crumpled paper etc.) on top of the ice followed by the vaccine and the thermometer, cover with another layer of bubble wrap or crumpled paper followed by an additional layer of ice or gel packs. Close lid. Log time and temperature on transfer form before transport and immediately upon arrival at destination. DO NOT transport in the trunk of a vehicle or in the back of a pick-up truck.

MMRV and Zoster, **MUST BE TRANSPORTED WITH DRY ICE.**

Location where dry ice may be purchased: _____ Phone: _____

Freezer Vaccine: MMR (not diluents), MMRV, Varicella (VAR) and Zoster. In container marked "Freezer Vaccines" place vaccine in appropriate container along with thermometer and pack container with enough **dry ice** to maintain temperature. VAR (**not MMRV or Zoster**) may be transported with ice packs. If temperature exceeds 5°F (-15°C), contact the vaccine manufacturer for assistance. **Note: MMRV and Zoster must always be transported with dry ice or in a specialty freezer unit.** Log time and temperature on transfer form before transport and immediately upon arrival at destination. DO NOT transport in the trunk of a vehicle or in the back of a pick-up truck.

MOVE vaccine to back-up storage:

Take the most direct route to the back-up facility.

DIRECTIONS: _____

Upon arrival: open the containers, record the temperatures, inventory the stock (with the receiving person) and see that the receiving person places vaccines in the proper refrigeration units which are maintained at the proper temperature ranges.

- ❑ **CHECK** that vaccine containers are properly labeled with facility name.

MECHANICAL FAILURE OF EQUIPMENT

Mechanical failure of equipment includes situations where the refrigerator or freezer door was left open, the temperature of the refrigerator or freezer was too warm or too cold, the storage unit was unplugged or any other situation which would cause improper storage conditions.

WHAT HAPPENED? Determine if POWER is Lost OR MECHANICAL FAILURE has occurred:

TAKE ACTION! Once you have determined mechanical failure has occurred, correct the mechanical failure if you can (shut the door, plug in the unit, move the thermostat to the correct position). If the type of mechanical failure cannot immediately be determined, use the following procedures.

WHO needs to be contacted to repair or replace the unit? Office manager, Physician or Repair Company?

Responsible Persons' Name: _____ Phone: _____

Additional contacts: _____ Phone: _____

Additional contact: _____ Phone: _____

THEN use the **Emergency Response Worksheet** to proceed.

Documentation: Using the Emergency Response Worksheet, document current temperatures of the unit and the vaccines affected with expiration dates and amounts of vaccine that have been submitted to unsafe temperatures.

CALL: Using the completed Emergency Response Worksheet, contact vaccine manufacturer(s) and give them the information from the worksheet.

RECORD: Write down the information given by the vaccine manufacturer(s) that you have contacted regarding EACH vaccine that was affected by the mechanical failure.

TRANSPORT: If the mechanical failure cannot be immediately rectified, refer to the procedures to be followed for transporting vaccine to the back-up location in the event of a power failure.

CONTACT: Contact the VFC program at 1-800-219-3224 relaying the information regarding the nature of the mechanical failure OR power outage, the information that you have documented on the Emergency Response Worksheet AND information you were given by the vaccine manufacturer(s) regarding the viability of all the vaccines that were affected.

Review Emergency Plan

The emergency plan must be reviewed and/or updated annually or when changes in staff occur.

The primary and backup vaccine coordinators are responsible for training other staff who are responsible for administering vaccines or who may be required to transport vaccine in an emergency situation, following the office's vaccine storage and handling plan. A simple log sheet with the staff member's name and date of training should be kept as documentation.

All staff should review, sign and date the emergency plan annually.

EMERGENCY RESPONSE WORKSHEET

1. Current temperature of refrigerator: _____ Max/min temperature reached: _____
2. Current temperature of freezer: _____ Max/min temperature reached: _____
3. Amount of time temperature was outside normal range: refrigerator: _____ freezer: _____

Refrigerator

Vaccine and Lot #	Expiration Date	Amount of Vaccine (# of Doses)

Freezer

Vaccine and Lot #	Expiration Date	Amount of Vaccine (# of Doses)

CALL ALL MANUFACTURERS OF AFFECTED VACCINE(S):

Request and document the following information from each manufacturer representative with whom you spoke:
Their name and a confirmation number of your call provided by the representative.

Manufacturer	Phone #
CSL Biotherapies	888-435-8633
GlaxoSmithKline	866-475-8222
MedImmune, Inc.	877-358-6478
Merck & Co., Inc.	800-637-2579
Novartis Vaccines	800-244-7668

sanofi pasteur	800-822-2463
Wyeth Vaccines	800-934-5556

VACCINE MANAGEMENT PLAN

Clinic Name: _____ **VFC Pin Number:** _____

- **I. Designation of primary vaccine coordinator and at least one back-up staff**

1. _____ _____ (Phone)
2. _____ _____ (Phone)

- **II. Vaccine Storage and Handling**

*Vaccine storage and handling plans follow the "**Vaccine Management Guidelines**" as found in the **Vaccine for Children (VFC) Program Manual,** the CDC produced DVD "**Vaccine Storage and Handling Toolkit**" and the CDC produced video "**How to Protect Your Vaccine Supply**" as found on the CDC website http://video.cdc.gov/asxgen/nip/isdvacstorage/VacStorage.wmv .*

1. _____ (Primary Person Responsible)
2. _____ (Designee or Back-up Person Responsible)

Responsibilities include:

1. All staff will only open one box of vaccine at a time.
2. All staff will not "dump" vaccine into other containers (even if they are the same vaccine).
3. All staff will check and use vaccine within time frames specified by manufacturer labeling and recommendations prior to administration.
4. All staff will ensure that vaccines are not "pre-drawn" from their vials.
5. All staff will ensure that vaccines are kept away from sides and back of the refrigerator.
6. Remove crisper drawers and place bottles of water in that space.
7. Ensure that vaccines are not stored in the door of the refrigerator.
8. Line the freezer sides and floor with ice packs.
9. Regularly check all storage units to ensure adequate air circulation is occurring around vaccine and that vaccine has not been placed in closed bins (such as the plastic closed containers supplied by drug manufacturer representatives).
10. Take appropriate steps to ensure refrigerators and freezers are not unplugged accidentally, the "Do Not Unplug" sticker is visible, and the use of plug guards or other means to secure plugs are in place.
11. Ensure that refrigeration units are plugged directly into outlets and not into power strips or extension cords).
12. Identify and label the circuit breakers for the vaccine refrigerators and freezers using the "Do Not Turn Off" stickers or similar labeling.
13. Ensure that all staff are familiar with the ***Vaccine Loss and Replacement Protocol*** and that vaccine allowed to expire, or is wasted due to negligence, will require replacement (***see Vaccine Loss and Replacement Protocol***).
14. Ensure that all staff is proficient in their ability to properly pack vaccine for transfer or emergency shipping.
15. Ensure that all staff is proficient in their ability to read thermometers, know correct temperature ranges, and can properly record temperatures on correct (Fahrenheit or Celsius) temperature log sheets.
16. Ensure that temperatures are taken twice per day, AM/PM, when clinic is open and logged on appropriate (Fahrenheit or Celsius) temperature log.

17. VFC office coordinator or designee will record temperatures daily and a supervisor is required to review temperature log and sign-off on the log weekly indicating all temperatures were within range or that proper corrective action was taken. Signed temperature logs that contain out of range temperatures that were marked "Yes" temperature was within range is considered negligence.
18. If at any time there is a break in the cold chain the VFC program is to be immediately notified and provided with: the temperature of the storage unit upon discovery, period of time excursion occurred, have all manufacturers been notified; if so – provide name of individual you spoke to along with discussion confirmation number.
19. Ensure that all required VFC monthly reports are submitted to the VFC program on time and that the most current form is used.
20. Maintain a simple training log documenting staff training dates.

• III. Vaccine ordering

Vaccine ordering plans follow the "**Vaccine Management Guidelines**" as found in the **Vaccine for Children (VFC) Program Manual.**

1. _____ (Primary Person Responsible)
2. _____ (Designee or Back-up Person Responsible)

Responsibilities include:

1. Ensure that all orders are made by ordering the number of vaccine doses needed, not the number of boxes.
2. Ensure that if more than one vaccine manufacturer is available, order one brand as much as possible to lessen administration and accounting errors.
3. Ensure that all orders are signed and dated.
4. Ensure that all orders include PIN number and provider name.
5. Ensure that the vaccine ordered is only to maintain approximately a 45-day supply of vaccine.
6. Ensure that the vaccine orders are faxed to (573-526-5220), e-mailed to the VFC Program at vfc@health.mo.gov, or you may e-mail your County Liaison directly and copy the VFC e-mail.
7. Ensure that all vaccine orders are submitted properly with required reports (***Vaccine Accountability*** form and ***Vaccine Temperature Logs*** with documentation of out-of-range temperatures situations as appropriate).
8. Temperature logs are to be documented from the first day of the month through the last day of the month and mailed the first business day following the last day of the month (regardless of the date the accountability report is sent).
9. Ensure that accountability reports and vaccine orders are submitted according to the provider's prescribed schedule to assure providers remain in good standing and orders can be processed.

• IV. Vaccine shipping (includes receiving, & transport)

Vaccine shipping plans follow the "**Vaccine Management Guidelines**" as found in the **Vaccine for Children (VFC) Program Manual**, the CDC produced DVD "***Vaccine Storage and Handling Toolkit***" and the CDC produced video "***How to Protect Your Vaccine Supply***" as found on the CDC website http://video.cdc.gov/asxgen/nip/isdvacstorage/VacStorage.wmv.

1. _____ 2. _____
(Primary Person Responsible) (Designee or Back-up Person Responsible)

Responsibilities for receiving include:

1. Upon receipt of vaccine, immediately examine all vaccine shipments for damage, or opening prior to receipt, contacting the VFC Program within 2 hours of delivery if abnormalities are noted.
2. Immediately open the shipping box and count vaccines received, comparing the numbers against shipping invoice and order form, check the temperature of the vaccine to see that they have not gone out-of-range, again contacting the VFC Program within 2 hours of delivery if abnormalities are noted.
3. Immediately store vaccines in the appropriate refrigeration storage units, checking expiration dates and placing the order received in the proper stock rotation to assure usage of the shortest expiration dated vaccines are used first, and add vaccine received to Vaccine Accountability form.
4. Maintain vaccine packing slip from manufacturers for 3 years
5. VFC highly recommends the following:
   - Document the date and time your order was received on packing slip.
   - Write the expiration date in black marker on top of vaccine box.
   - Tape boxes of vaccine shut that are not already secured by the manufacturer to avoid opening more than one box of vaccine at a time and to help facilitate your monthly vaccine inventory count .

Responsibilities for vaccine transport include:

When transporting vaccine, place vaccine in appropriate container (such as vaccine shipping box) found (state where the container is located) along with all packing supplies and copy of transfer form (state where ice packs, bubble wrap and transfer forms are located) as directed below:

Freezer Vaccines: MMR (not diluents), MMRV, Varicella (VAR) and Zoster. Mark container "Freezer Vaccines" and store in designated area until needed. To pack for transport, place vaccine and thermometer in bottom of container and cover with enough **dry ice** to maintain temperature. VAR (**not MMRV or Zoster**) may be transported with ice packs. If temperature exceeds 5°F (-15°C), contact the vaccine manufacturer for assistance. **Note: MMRV and Zoster must always be transported with dry ice or in a specialty freezer unit.** Log time and temperature on transfer form before transport and immediately upon arrival at destination. Vaccines will not be transported in the trunk of a vehicle or in the back of a pick-up truck.

Refrigerator Vaccine: Mark container "Refrigerator Vaccines" and store in designated area until needed. To pack for transport, place ice packs or refrigerated gel packs in the bottom of container, lay a barrier (bubble wrap, crumpled paper etc.) on top of the ice or gel packs followed by the vaccine and the thermometer, cover with another layer of bubble wrap or crumpled paper followed by an additional layer of ice or gel packs. Close lid. Log time and temperature on transfer form before transport and immediately upon arrival at destination. Vaccines will not be transported in the trunk of a vehicle or in the back of a pick-up truck.

Contact the VFC Program at 800-219-3224 prior to transfer. Fill-out Vaccine Transfer sheet found (state location) and take with the vaccine to the new location. Upon arrival open the containers, record the temperatures, inventory the stock (with the receiving person) and see that the receiving person places vaccines in the proper refrigeration units which are

maintained at the proper temperature ranges. If vaccine has been placed in a closed zip lock bag for transfer, the vaccine must be removed from the bag prior to being placed in storage unit to allow for proper air circulation. After transfer is complete, fax a copy of the Vaccine Transfer sheet to the VFC Program at (573-526-5220), and deduct the transferred vaccine from the Vaccine Accountability sheet.

- **V. Inventory control** (e.g. stock rotation)

Inventory control plans follow the "**Vaccine Management Guidelines**" as found in the **Vaccine for Children (VFC) Program Manual,** the CDC produced DVD "***Vaccine Storage and Handling Toolkit***" and the CDC produced video "***How to Protect Your Vaccine Supply***" as found on the CDC website http://video.cdc.gov/asxgen/nip/isdvacstorage/VacStorage.wmv.

1. _____ (Primary Person Responsible)
2. _____ (Designee or Back-up Person Responsible)

Responsibilities include:

1. Check expiration dates monthly; put the expiration date on the box so it is easily visible yet not obscuring vital vaccine information on the box; rotate vaccine as needed to ensure that the shortest expiration dated vaccine is used first.
2. Ensure that vaccine does not expire. If expiration date is within 90 days, contact the local county health department or another VFC provider to see if they will accept a transfer. If unable to find transfer, contact the VFC Program for transfer assistance.

- **VI. Vaccine wastage**

Vaccine wastage plans follow the "***Vaccine Management Guidelines***" as found in the ***Vaccine for Children (VFC) Program Manual***.

1. _____ (Primary Person Responsible)
2. _____ (Designee or Back-up Person Responsible)

Responsibilities include:

1. In the event that vaccine is wasted, the information regarding the reason for the wastage will be listed on (list the form used and its location).
2. Collect and record the wastage information accounting for the vaccine wasted on the Vaccine Accountability form submitted to the VFC Program monthly.
3. Contact VFC Program at 800-219-3224 to obtain shipping label to return out-dated, unopened vials of vaccine for excise tax credit to McKesson per the VFC return policy.
4. Unaccounted vaccine on the monthly accountability form will be considered wasted and subject to replacement.

Guidelines for Large Scale Novel H1N1 Influenza Vaccination Clinics

Introduction

This document provides general guidance and examples for planning and conducting large-scale immunization clinics. Incorporated into the document is information specific to influenza vaccination clinics during a pandemic. At present, given that there are many unknowns about novel H1N1 influenza, planning at the state, local and clinic levels should be flexible and build around varied scenarios

This document covers important topics such as clinic settings, clinic flow, staffing functions, administration and storage of vaccine, clinic supplies and equipment, security, documentation, post-vaccination observation, handling and disposal of needles

1. Determine Resource Needs

Based on the vaccination strategy (i.e., priority groups, disease severity and prevalence, seasonal flu patterns, etc.) the number and duration of clinics, and number of staff required should be calculated. The precise number of personnel needed for any one clinic will vary, however, depending on the size and layout of clinic facilities, location of clinic, geographic area being served by the clinic, estimated number of vaccine recipients at each clinic. The over-all staffing needs should be estimated based on the model described under Section 1: Clinic Operations.

2. Identify Potential Clinic Sites

Potential clinic sites should be selected based on the estimated number of people expected to be served and the size and layout of the facility. The size and type of facilities needed for novel H1N1 influenza immunization clinics will vary depending on the number of persons to be served. Small clinics, such as those to immunize health care workers, can be conducted in almost any available space, most likely a local health department, hospital occupational clinic, or similar facility. Larger clinic sites could be housed in schools, churches, industrial locations, office buildings, or apartment complexes. Schools may be the preferred location for any clinic required to be larger than a local health department. Schools have parking lots, long corridors, large classrooms, gymnasiums, cafeterias, private offices, and other immediately available resources, such as tables and chairs, and offer an ideal physical structure that can meet most clinic needs. Elementary schools are preferable because they are numerous and serve fairly well-defined neighborhoods convenient to the public. The use of middle or high schools may also be considered.

In selecting clinic sites, handicap access must be assured. Also, consideration should be given to ensuring a smooth flow of clients, accessibility of the facility to major streets, restroom facilities, parking, refrigeration, heating/air conditioning, protection from the elements, personal and client

safety and security. Before final selection, a visit should be made to the location to ensure that the facility meets the needs of the vaccination operation.

3. Obtain Authorization / Standing Orders

Before a clinic can be implemented, standing orders must be obtained from the public health authority, usually the state and/or local health officer to provide authorization for administration of the influenza vaccine. Standing orders are also needed for responding to medical emergencies that occur during vaccination clinics, ranging from minor injuries and illnesses to anaphylactic shock. In addition to providing standing orders, the health officer or his/her designee must approve the content of informational materials and serve as medical consultants for nursing and other staff.

4. Plan Training

All public and private health care workers and the many volunteer workers who may become involved in influenza vaccination efforts should receive both job specific and, where possible, cross job training in advance and/or on the job. Large numbers of clinic staff can be trained using a train-the trainer approach.

5. Publicize the Clinic

After immunization clinic locations are determined and recipient populations identified, public announcements with information about these clinics should be released as soon as possible.

When developing communications materials, all relevant information should be included. As decisions are made, the information disseminated must clearly describe the groups for whom the clinic is intended or not intended. For example, certain locations might serve priority groups exclusively. Non-English speaking groups may be asked to come at specific dates and times when translator resources are available. Information identifying clinic locations and directions, dates and times of operations, length of time the vaccination process may take, tips on type of clothing to wear, and what to expect once at a clinic should be provided through various media outlets (TV, newspapers, etc.) in as many languages as needed.

The CDC's education and communication materials will be made available electronically and in printed formats. When available they should be translated into the appropriate languages for the geographical area, reproduced in appropriate quantities and ready for rapid distribution. Patient education materials may need to be modified in consultation and coordination with immunization partners and representatives of the community to ensure that the information provided is adequate and culturally appropriate for local audiences. Printed materials should be at reading levels suitable for their intended audiences.

Using professional public relations assistance when available, announcements should be updated from the CDC materials and released for television, radio, and newspaper media. If specific groups require additional information, (e.g., to counteract misconceptions about vaccination) clinic organizers may need to distribute flyers to targeted populations in apartment buildings, neighborhoods, workplaces, schools, and/or religious centers.

If special transportation can be provided for persons with physical or age-related disabilities, the telephone number for requesting special transportation should be included in all clinic publicity. To ensure accurate reporting by the media a list of subject experts and media spokespersons from state and local public health agencies and community partners should be developed and made easily accessible to the media through an approved format. If necessary, individuals who can be called upon to serve as interpreters should be identified to help inform non-English speakers. This list should note the foreign languages spoken by these individuals. To improve understanding of the subject matter, photographs and graphics should be provided in various media.

In addition to information about the specific clinic being publicized, a concerted effort should be made to provide information to the public that emphasizes:

- The rationale of the immunization strategy.
- Disease containment measures are effective.
- All possible measures are being taken to prevent the further spread of the disease.

Section 1: Clinic Operations

1. The Vaccination Clinic Process

Step One: Orientation
As vaccine recipients arrive, they are routed to the clinic entrance by security personnel who are handling outside traffic flow and parking. Staff will screen patients for signs and symptoms of an influenza-like illness (ILI). Clients who present with symptoms of an ILI will be directed to an alternative section of the clinic. Well-clients enter the clinic building vaccine and are directed to a location where the greeter-educator briefs groups about what is going to take place during the clinic process and hands out paperwork for the client to fill out. Clients will begin to read and fill in required personal information (name, address, etc.) Multiple educator-greeters locations may be necessary to accommodate the rate at which people arrive.

Step Two: Form Completion and Assessment for Contraindications
Clinic flow coordinators direct vaccination clients to tables where staff is available to answer questions and aid clients in completing required forms. Vaccine clients who check 'yes' for allergy to eggs and/or previous problems following a previous influenza vaccinations are directed to a separate station where a medical professional will complete a more in-depth evaluation.

Step Three: Vaccination
Vaccine clients with no medical contraindications are directed to the vaccination area. This area is a screening area that affords privacy to persons who find it necessary to remove clothing in order to expose the vaccination site. A vaccination assistant helps vaccine recipients expose their vaccination site (upper arm, thigh) and cleans the vaccination site if necessary. The vaccine

administrator then administers the vaccine and the assistant applies a bandage to the vaccination site. The patient's clinic documents and a patient-held vaccination card are completed.

Step Four: Post Vaccination Observation, Clinic Forms Collection and Exit
The vaccine recipients are routed to an area set aside to be observed for 10-15 minutes for potential post-vaccination problems. During this time the clinic forms collector ensures that forms are complete, answers any remaining questions and informs vaccine recipients that they will need a second vaccination or are finished with the process, as appropriate. This individual also ensures that the vaccinee has been provided a completed vaccination card.

2. Staffing and Training

The official responsible for overall direction of the vaccination operation must assign a clinic manager who is responsible for overall clinic operation. This is the primary decision maker for the site, and supervises all non-medical personnel. All staff and volunteer assignments should be documented on a clinic assignment sheet.

Management and Coordination Functions
To assist the manager with large clinic operations, coordinators should be identified for the various clinic functions as outlined below:

Nurse Coordinator: Oversees nursing staff assigned to the clinic; assists clinic manager in making clinic assignments for nursing staff; assists on-duty nurses as needed.

Supply Officer/ Vaccine Manager: Ensures that all necessary clinic supplies are on site and are available in sufficient quantities during clinic operations; ensures vaccine supply and orders vaccine; tracks vaccine supply at the beginning and end of each day, maintains an inventory of supplies; oversees distribution of supplies to appropriate locations in the clinic; ensures that the vaccine is maintained properly (refrigeration, vaccine monitoring) and in a secure manner at the clinic site; accounts for unused vaccine;: very importantly, maintains adequate vaccine and other supplies at the vaccine station; and ensures that 'sharps' containers and other waste are disposed of appropriately.

Security Coordinator: Oversees personnel assigned to security activities at the clinic site; assists the clinic manager in making duty assignments of security personnel; determines appropriate number of security staff necessary according to clinic size and location; maintains a list of authorized clinic staff and their phone numbers; assigns and coordinates use of cell phones and pagers; establishes staff check-in and check-out procedures; ensures that all staff wear ID badges; maintains communication with local law enforcement officials.

Volunteer Coordinator: Oversees volunteer activity at the clinic site. Assists the clinic manager in making duty assignments of volunteer staff; maintains roster of persons available for volunteer duty; and maintains a schedule of times that volunteers will be available to work.

Staff Functions

Following is a summary of suggested responsibilities of the staffing roles as outlined in the operational concept above:

Clinic Screeners: Screeners intercept clinic clients outside the clinic area and separate clients presenting with signs and symptoms of influenza-like illness from well clients. They direct well clients into the clinic area and ILI patients to an alternate area.

Greeter-Educators: Greet and conduct initial orientation of potential vaccine recipients upon their arrival; provide basic information about the vaccine and the vaccination process; distribute informational material and clinic documents and answer questions.

Greeter-Educators must be able to explain the purpose of receiving the vaccine, outline the vaccination clinic process, and distribute and explain the clinic documents to vaccine recipients.

Forms Completion Assistants/ Contraindication Assessment Staff: Assist and review each vaccine client's documents for completeness, accuracy, and address those that answered, "yes" to any questions that concerns contraindications to influenza vaccine.

These staff must be familiar with the content of each form. They must be prepared to respond to exceptional situations such as non-English speaking patients or patients who are anxious, hostile, disoriented or physically disabled. The documentation staff will aid clients in completing all forms accurately. They should be prepared to read the forms to illiterate or semiliterate persons needing their assistance. If a "yes" is indicated by the client in a question concerning a contraindication to an influenza vaccine, the staff directs the client to the medical station.

Medical Evaluator: Medical personnel further evaluate clients who indicate they might have a contraindication, provides medical aid to vaccinees experiencing medical problems following vaccination, and participates in further evaluation of clients who presented with ILIs.

This role should be filled by a physician, nurse or paraprofessional who is well-versed in contraindications to vaccination and the risks of influenza disease. The medical evaluator will review in greater detail the specified contraindication with the client and will assist in making a final decision about whether or not to vaccinate.

Medical personnel must be able to respond to emergencies, including reactions ranging from the minor to anaphylactic shock and serious medical emergencies that are incidental and unrelated to vaccination but can be expected to occur whenever large groups of people congregate. For large operations, a physician, physician's assistant, nurse practitioner or emergency medical technician should be on-site at all times during clinic operations.

Vaccination Assistants: Assist the vaccine administrator with all aspects of pre-and post-vaccine administration activities; preload syringes; prepare nasal spray units; ensure

that vaccination station maintains adequate supplies; at site of vaccination, assist vaccine recipients in preparing the vaccination site (roll up sleeves, remove arm from shirt/blouse, expose thigh, etc.); clean vaccination site with alcohol, if necessary; apply bandage to the vaccination site; ensure that "sharps" containers and other waste materials are correctly handled and disposed of, and help complete clinic forms.

Vaccination assistants must have a thorough understanding of the vaccination process and the necessary supplies, proper technique for preparing the vaccines; filling a syringe with the exact dose, preparing nasal spray units; proper care and handling of vaccine in the clinic, how to disinfect contaminated surfaces and dispose of soiled materials, and where to access additional supplies. Vaccination assistants are also responsible for entering the vaccine lot numbers and other required information onto the patients' clinic record and personal vaccination card. Finally, the assistant directs the patient to the post-vaccination observation area.

Vaccine Administrators: Oversee the immunization process; determine appropriate type (inactivated, injectable or live, attenuated, nasal spray) and dose volume (child or adult) of vaccine: administer the vaccine; appropriately dispose of "sharps" containers, sign the clinic record (if required) and observe vaccine recipients in the post-vaccination observation area for reactions or complications.

Vaccine administrators can be RNs, physicians, LPN, MAs or designated paraprofessionals (according to individual state rules/regulations) who have received technical training in administration of each type of influenza vaccine (inactivated, injectable and live-attenuated, nasal spray). Vaccinators must have training to be able to quickly select the appropriate type of vaccine to administer based on clients' age. They must have in-depth people skills, and understanding of proper vaccination techniques, methods to prevent contamination of the vaccine, preparation of the vaccination site and normal and abnormal post vaccination responses. Vaccinators must also be prepared to recognize, respond to and alert emergency medical personnel of possible post vaccination reactions and other medical emergencies that occur within the vaccination area.

Forms Collectors: Answer client questions, verify that forms are correctly completed; collect all necessary forms from recipients before departure.

The forms collector is responsible for checking that the vaccination team has signed the clinic record (if required) and entered the lot numbers on the appropriate documents. As the last staff to have contact with the vaccine recipients, the forms collector must have the ability to ensure a response by the appropriate staff to any remaining concerns those clients may have.

Clinic Flow Controllers: Direct vaccine clients through the clinic process and monitor clinic flow.

Clinic flow coordinators are responsible for continuously monitoring and directing client activity throughout the facility. They must be able to calmly manage and assist people

who may be anxious and unable to follow directions. When congestion (backlog) is noted, flow controllers determine if staff at other locations are less busy and request assistance in the congested area. They are also responsible for feeding back information about the number and rate of upstream clients to the vaccination assistants to enable them to maximize use of all vaccine doses in opened vaccine vials. Flow controllers may be in a position to provide early alert of situations that may require additional security personnel.

Security Staff: Ensure an orderly flow of traffic and parking at the clinic site; assist in maintaining orderly movement of vaccine recipients through the clinic process; provide necessary control if persons become unruly; assist supply officer in maintaining security of vaccines and other clinic supplies.

Security Staff can be off-duty law enforcement officers, professional security personnel and/or volunteers who are experienced and trained in crowd control. Potential responsibilities of security staff are described in detail below (under Security).

Staff Training

The staff operating a clinic site should receive a group orientation about the overall purpose, function, and flow of the vaccination clinic, as well as specific verbal and written directions for their individual roles. During the orientation a diagram with annotations should be provided to show traffic flow, the functions of all clinic stations and a list of staff assigned to each role and each station, if possible. The responsibilities of each area of the vaccination clinic are reviewed with the entire staff. All staff need to know where they will work, where supplies and resources are located, and who their consults are as well as how to summon them. Daily post-clinic debriefings should be held to assess staff performance and ascertain if additional training or clinic reconfiguration is needed.

In small clinics staff roles can be flexible to accommodate changes in clinic flow and patient numbers, and to permit rest breaks for other staff. In large clinics this, and accommodating unexpected staff absences, can be accomplished by cross training of staff. Therefore, orienting staff in small, interchangeable teams is suggested.

If time permits, a mock vaccination clinic or role playing session should be conducted to train and evaluate the potential performance of staff. Vaccinating clinic staff, as well as first responders and other health providers, is suggested as a way to provide critical training and experience for all staff, especially the vaccine administrators.

Emergency personnel should also attend the group orientation and be given information about influenza. They should be familiar with the layout of the clinic site and know where ill patients will be maintained prior to transport.

3. Clinic Layout and Flow

Clinics should have clearly marked entrance and exit points with adequate “waiting” space for queues of people seeking vaccination. Security staff should be posted at both locations to

maintain order. The traffic flow within the clinic should be controlled and should follow a logical path from entry into the clinic to exit from the clinic. A linear path of traffic flow from entry to exit on opposite sides of the facility is optimal. If time permits, easy-to-read signage should be provided to guide people through the clinic process. (See – Example of Large Scale Influenza Vaccination Clinic below.)

One or more persons (screeners) should ask about, and monitor clients for signs and symptoms of influenza-like illness (ILI) while outside the entrance to the clinic. All persons presenting without such ILI signs and symptoms should proceed into the clinic. Those found to have symptoms of ILI should be directed to a set-aside alternative area for a more detailed medical evaluation.

Within the clinic, greeter-educators provide information to clients on clinic procedures and hand out clinic forms for completion of Vaccine Information Statements (VISs) and other materials. A separate area should be provided in which clients can be seated to complete forms, and staff member are available to answer questions and assist in the completion of client forms. Medical providers are available to interview clients with histories of contraindications to influenza vaccine. All this should be performed in an area separate from the vaccine administration stations.

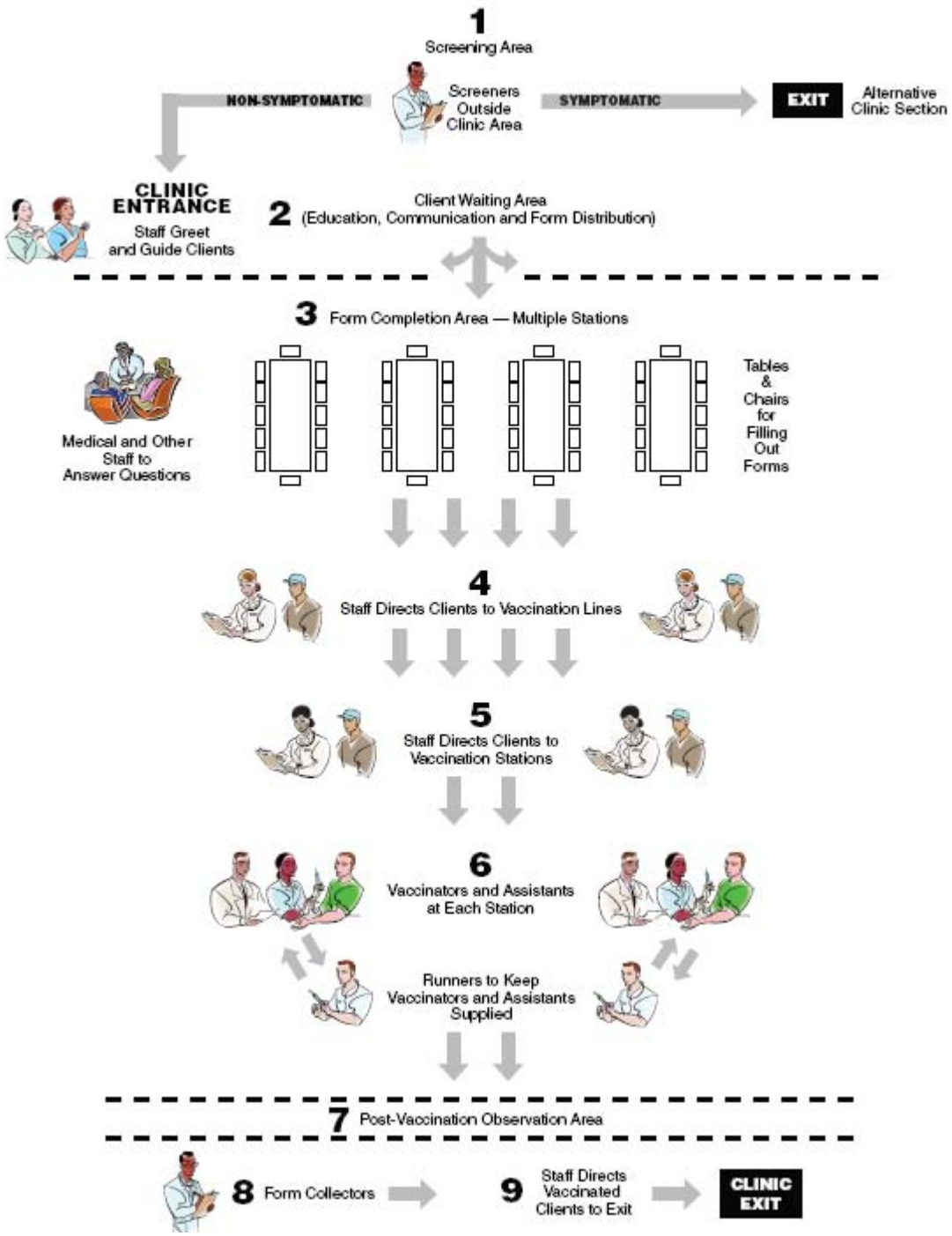
It is likely that form completion will become the most time-consuming clinic activity. Sufficient staff should be assigned to move persons through these areas with some dispatch in order to maintain a steady flow of clients to the vaccination areas and maximize the efficiency of the vaccinators. Client overflow should be held in a location in the clinic designated for this contingency.

Traffic in the area where vaccine is being administered should be kept to a minimum. Ideally, each vaccination station should be physically organized so that clients must present one at a time at the vaccine administration table. The three steps of the actual vaccination process (site preparation, vaccination, and dressing application) shared by the vaccination team will take place in a relatively small space (one or two tables) in the same area. Since some vaccine recipients may need to remove shirts or blouses in order to be vaccinated, a separate, screened privacy area should be available out of view of other persons waiting to be vaccinated. If possible, a separate vaccination station should be opened for the elderly and persons with disabilities who may need additional time.

The clinic vaccination record for each vaccine recipient should be completed and verified. The recipient should also be provided with a personal vaccination card.

The post-vaccination observation area and medical emergency area should be located as close to the vaccine administration area as possible.

Example of Large Scale Influenza Vaccination



4. Documentation and Paperwork

Vaccinee-specific documents that may be required by a novel H1N1 influenza immunization clinic must be collected (Table 1.). The clinic vaccination record of each recipient must be retained by the clinic in paper or electronic format. If computer resources are available, required recipient clinic data should be entered in "real time" throughout the vaccination process. However, paper-based documents may be the only available collection format. Where possible, these can then be entered into a computer for storage and to provide a summary.

Certain administrative documents and worksheets, such as staffing assignments, attendance, doses available, administered and wasted, will be required to assist in clinic management and keeping track of the vaccine (Table 2.).

5. Security

Early in the vaccination program, especially if influenza cases are many, severe and rapidly increasing in number and vaccine availability is not well defined, the level of risk perceived by the public may be extreme. In these circumstances, state and local public health officials should be prepared for a high level of demand for vaccine by the public. Likewise state, local and contract law and security agencies should be prepared for traffic and crowd control near vaccination clinics.

Management Responsibilities
The clinic manager must ensure that the following activities are handled at each site:

- Notify state/local police and EMS of the time location of the clinic
- Assign a security coordinator
- Ensure presence of police of other security personnel
- Require that all staff wear identification cards
- Determine need for trained security guards, crowd control and traffic control personnel
- Designate entrances/exits for staff use
- Provide list of authorized staff for each clinic site
- Establish staff check-in/check-out procedures
- Establish methods and locations to safeguard vaccine and other clinic supplies
- Maintain a system to vaccinate clients in their order of arrival

TABLE 1

POSSIBLE VACCINATION DOCUMENTS

Document	Information Collected Or Provided	How Used
Screening Protocols: a) ILI symptoms b) Contraindications c) Prioritization	Symptoms of ILI or not Contraindications to Flu Vaccine or Components Priority Group	> Screen ILI suspects from entering clinic > Identify/send to medical person for expert opinion > Ensure vaccination of high priority groups first
Vaccine Information Statement and/or EUA Fact Sheet (if required)	Verbal: Yes/No: Have you read? Do you understand? VAERS instructions.	Provide disease and vaccine information at clinic; Taken home by vaccinee to inform/advise how to report adverse events to VAERS
Clinic Vaccination Record	Name, Address, Date age/DOB,M/F, lot number, manufacturer, type of administration (injection/ nasal), other state, local, and clinic-required data	Official clinic medical record retained and available for VAERS review and/or FDA/CDC review under EUA
Patient Vaccination Card	Name, Clinic Name and phone, Date age/DOB,M/F, lot number, manufacturer, type 1st dose, 2nd dose, date to return for 2nd dose	Proof of vaccine receipt; Information presentable to health provider in the advent of an Adverse Event; Reminder/recall for 2nd dose and date for 2nd dose verify receipt of vaccine

TABLE 2

POSSIBLE ADMINSTRATIVE WORKSHEETS

Document	Information Collected Or Provided	How Used
Daily Vaccine Tracking Record By: • Inactivated types • Life, attenuated type	• Beginning Inventory • Dose received • Doses Administered • Ending Inventory • Doses Wasted • Signature of clinic official	Documents where, when and how much vaccine was used; daily vaccine supply monitoring, accountability
Staffing/Volunteer Assignment Sheet	Date of Clinic Clinic Roles Individuals Assigned Attendance	Record staffing/volunteer assignments

Security Staff Responsibilities

Security staff functions include: (1) maintaining orderly clinic operations; (2) protecting patients; (3) protecting employees; (4) protecting facility property, including medical supplies and vaccine; and (5) enforcing the direction of ILI symptomatic clients to an alternative section of the clinic. To fulfill these functions, security staff must have the capacity to:

- Manage the facilities' security resources.
- Monitor the physical facility.
- Recognize potential for mob behavior.
- Control access to the facility and areas within it...
- Provide a means to identify authorized employees.
- Update an authorized personnel list on an ongoing basis.
- Coordinate with other security agencies.
- Direct person in need of care to alternative facilities.
- Remove individuals who pose a risk to the facility and its operation.
- Follow the emergency response plan of the state, local and/or facility.
- Communicate with clinic staff, the command center, and external security personnel.
- Perform a secure lock down of the facility quickly.
- Obtain additional security resources in a predefined "emergency" situation.
- Respond with appropriate force if required.
- Provide information to persons massed outside the facility.

Security Strategy

To manage a large number of people arriving at clinic sites, the main strategy should be to 1) secure a limited access perimeter at a designated distance from the physical facility; 2) secure the clinic itself (interior perimeter; e.g., the facility's main and secondary entrances, front drive, and parking area); and 3) maintain order within the facility. To carry out these strategies, security personnel must be prepared to:

- Intercept and detain individuals attempting unauthorized entry to the facility.
- Continuously provide situation information to state/local disaster command and control.
- Disseminate public information, including leaflet distribution.
- Control and disperse crowds.
- Operate available security equipment such as closed circuit television, metal detectors, security alarm systems and radio communications system.

Emergency Protocol

In a medical or public safety emergency, security staff should immediately undertake the following activities:

- Set up an outer perimeter
- Arrange to meet emergency vehicles at the outer perimeter and guide them to the appropriate entrance.

- Meet mass transit and supply vehicles at the outer perimeter and direct them to the appropriate entrance.
- Meet individuals coming to the facility at the outer perimeter and identify them as either authorized staff or eligible for care.
- Deny ineligible or unauthorized persons admission using standard scripts.
- Direct authorized persons to the admission station at the interior perimeter. Offer disabled persons, the elderly, and parents with small children an escort, when appropriate.
- Monitor length on lines at the clinic entrance and relay information to the outer perimeter to limit admission, when necessary.
- Refer over-flow to other clinics, if necessary.
- Lock down the facility in the event the security objectives were compromised.

6. Clinic Supplies and Equipment

A secure area should be identified for maintaining clinic supplies including vaccine. A list of clinic supplies should be kept on hand at the clinic site to be used for staff training, clinic set-up, and restocking. A list of suggested supplies is provided in Table 3.

7. Transportation

Depending on circumstances (security concerns, parking facilities, clinic size and location, etc) the following groups may require transportation assistance:

- Clinic staff,
- High-risk, elderly and disabled individuals, or specific priority group
- The general public (i.e., persons with lower or unknown risk of exposed).

In addition, transportation will be needed to keep adequate amounts of vaccine and various clinic supplies in stock. Pick-up locations for staff and supplies should be arranged and clearly communicated to drivers and staff.

Although transportation of clinic staff can be handled with agency motor pool or rented vans, special security arrangements may be required. Until vaccine supplies are no longer critical, vaccine can be transported in law enforcement or similar secure vehicles. If transportation of large numbers of vaccine clients is required, public and/or private buses may be needed. In these cases, a hotline or other mechanism must be established to enable individuals to obtain information about bus departure locations and schedules. Special consideration should be given if transportation of special populations becomes necessary [e.g., children, the elderly, homeless persons, remote populations, and disabled (including homebound) persons. The ability to communicate with drivers via radio or cell phones is critical.

TABLE 3

PANDEMIC INFLUENZA CLINIC SUPPLIES AND EQUIPMENT

General Supplies and Equipment

Tables
Chairs
Water and cups
Paper
Pen, pencils
Envelopes
Rubber bands
Tape
Stapler/staples
Scissors
Post-it Notes
Clipboards
File boxes
Telephone/Cell phones
Paper towel
Kleenex tissue
Table pads/clean paper
Trash containers/bags
ID badges for staff
List of emergency phone numbers

Vaccine Administration Supplies

Cooler/refrigerator for vaccine
Needles
Syringes
"Sharps" containers
Latex gloves
Latex-free gloves
Antibacterial hand-washing solutions
Alcohol wipes
Rectangle band-aids
Gauze
Adhesive tape
Spray bottle of bleach solution
Thermometers for vaccine and people
Curtain for privacy

Emergency Supplies

Standing orders for emergencies
Epinephrine 1:1000 SQ
Diphenhydramine 50 mg IM
3cc syringes with 1", 25-guage needles
1.5' needles
Tuberculin syringes with 5/8" needles (for epinephrine)
Alcohol wipes/Sterile dry pads
Bandages
Tongue depressors
Adult and pediatric pocket masks with one way valve
Adult and pediatric airways tubes
Tourniquet
Gurney
Stethoscope
Flashlight/batteries
Blood Pressure Monitor
Instant Cold Packs
Cots
Blankets
Pillows

Crowd Management Supplies

Signs for clinic stations and between stations
Queue partitions (to keep people in lines), roping

Computer Equipment and Supplies

Computers
Printers/Ink Cartridges
Paper
Internet access

8. Vaccine Storage and Handling

Guidelines for handling and storage of inactivated and live-attenuated influenza vaccines are appended. The package inserts should be consulted for optimal cold storage criteria. For both types of vaccine, the cold storage temperature recommendations for vaccine refrigerators, shipping containers and day storage at administration sites is 2-8° C. Vaccine shipping boxes and equivalent containers and cold gel packs are adequate for day use. If the clinic lasts for more than one day, arrangements must be used to store the vaccine in a secure, temperature-monitored refrigerator. Vaccine usage should be monitored closely, and arrangements made to obtain additional vaccine, as needed.

9. Disposal of Needles and Medical Supplies

All vaccination operations should observe universal precautions for preventing blood exposures and blood borne pathogen transmission (i.e., hepatitis B and C viruses [HBV, HCV], and human immunodeficiency virus [HIV]). Specific guidelines for the proper disposal of instruments and other potentially contaminated material during a novel H1N1 influenza vaccination operation are summarized below:

1. Appropriate disposal of pre-sterilized needles after use:
   - Medical waste sharps containers should be available in the area where the sharp is used.
   - Arrangement should be in place for transport and destruction of filled sharps containers.

Other medical waste, including gauze or cotton used during administration of vaccine, other potentially contaminated material, and empty vaccine vials and nasal spray containers should be bagged in appropriately marked biohazard bags and incinerated or autoclaved on-site if possible

10. Vaccine Security and Tracking

Since the demand for influenza vaccine for novel H1N1 may be very high, care must be taken to protect the vaccine supply from theft and fraud. In addition, great care and pre-planning must occur to minimize vaccine wastage that may result from improper handling and storage, and discarding prefilled syringes and partially used vials. Because of these factors, each and every dose and vial should be accounted for before and after each clinic session.

11. Communication Systems

Each clinic must have a working phone and computer facilities for e-mail traffic. If available, walkie-talkies and cell phones should be distributed to the clinic staff. Ideally, replacement batteries and/or battery chargers for each device also should be made available. A list of important land and cell phone numbers should also be distributed to all clinic staff.

12. Post Clinic Activities

Post-clinic activities are necessary to ensure that the event is documented for the public record, to determine the cost of the operation and to enhance efficiency for future efforts. In this context, evaluation of novel H1N1 influenza clinics should include review of expenditures and in-kind cost incurred in the operation, identification of gaps and problems, recommended changes in emergency response plans, and a description of implications for public health infrastructure.

CS204940-D

Pandemic Influenza Plan - Antiviral Medication Storage and Distribution

For more information contact Sue Heisler at Sue.Heisler@health.mo.gov or 573-526-4768

INTRODUCTION

The use of antiviral medications for management of influenza is an important component of a multi-faceted response to an influenza pandemic. Treatment with a class of agents called neuraminidase inhibitors has been shown to decrease severe complications of influenza, such as pneumonia and to reduce hospitalizations. Antiviral usage may be particularly important before vaccine is available and for those for whom vaccination may be medically contraindicated. The effect of antiviral medications is usually immediate and does not interfere with the response to inactivated influenza vaccines. It is also essential to avoid inappropriate use of antiviral medications because that may lead to influenza virus developing resistance to these medications. Ultimately, vaccination against the pandemic influenza virus is likely to provide the most durable protection against the illness but pandemic vaccine may not be available in a timely manner.

Antiviral medications for treatment of influenza included in the Strategic National Stockpile (SNS) include the neuraminidase inhibitors, oseltamivir (Tamiflu®) and zanamivir (Relenza®). The Centers for Disease Control and Prevention (CDC) also has added Peramivir for intravenous administration for patients who have severe, complicated or progressive illness or who are hospitalized or who are unable to take oral medication or in whom oral medication appears to be ineffective.

OBJECTIVES

- Describe plan for allocation, distribution, and administration of antiviral medications.
- Monitor antiviral medication use and safety during a pandemic.

PLANNING ASSUMPTIONS

- Missouri Department of Health and Senior Services (DHSS) will continue to follow the guidance issued by the CDC regarding the use of antiviral medications. (Please see specific references in the resources section at the end of this annex.)
- Treatment with a neuraminidase inhibitor (oseltamivir [Tamiflu®] or zanamivir [Relenza®]) will be effective in decreasing risk of pneumonia, will decrease hospitalization by about half (as shown for interpandemic influenza) and will also decrease mortality.
- The effectiveness of antiviral medications against a new pandemic influenza strain cannot be completely predicted.
- The choice of particular antiviral medications will depend on what is known about the viral resistance pattern at the time of pandemic and the availability of a particular drug.
- Antiviral resistance to the adamantanes (amantadine and rimantadine) may limit their use during a pandemic.
- Early treatment is a more efficient use of antiviral medications than prophylaxis.
- Early treatment after the onset of disease is most effective in decreasing the risk of complications and shortening illness duration. Generally, treatment should be given within the first 48 hours.

- Antiviral use will be most important during the time when vaccine isn't yet available, when supply of new vaccine is limited, and while immunity from the vaccine is being developed.
- Within local communities, private providers, health care, industry and others may have purchased antiviral medication caches for protection of their workers.

EMERGENCY USE AUTHORIZATION (EUA)
Section 564 of the Federal Food, Drug, and Cosmetic Act (the Act), amended by the Project BioShield Act of 2004, permits authorization of such products for use in diagnosing, treating or preventing serious or life-threatening diseases or conditions caused by biological, chemical, radiological or nuclear agents, if certain statutory criteria are met.

Should a pandemic occur, Missouri would follow the guidance and requirements issued by the federal government related to use of antiviral medications. It is anticipated the Secretary would declare a public health emergency therefore the Federal Drug Administration (FDA) has authority to issue an Emergency Use Authorization (EUA) for emergency use of Tamiflu® (oseltamivir) and Relenza® (zanamivir). More information on the EUA can be found at http://www.fda.gov/RegulatoryInformation/Guidances/ucm125127.htm.

In addition to the medical countermeasures supplied by the SNS, Tamiflu® and Relenza® that are supplied via state and local governments are also covered by the EUA, if the terms and conditions of the EUA are met.

PUBLIC READINESS AND EMERGENCY PREPAREDNESS (PREP) ACT
The PREP Act authorizes the Secretary of the Department of Health and Human Services (Secretary) to issue a declaration (PREP Act declaration) that provides immunity from tort liability (except for willful misconduct) for claims of loss caused, arising out of, relating to or resulting from administration or use of countermeasures to diseases, threats and conditions determined by the Secretary to constitute a present or credible risk of a future public health emergency to entities and individuals involved in the development, manufacture, testing, distribution, administration and use of such countermeasures.

A PREP Act declaration is specifically for the purpose of providing immunity from tort liability, and is different from, and not dependent on, other emergency declarations. The PREP Act also authorizes an emergency fund in the United States Treasury to provide compensation for injuries directly caused by administration or use of a countermeasure covered by the Secretary's declaration. While no funds have been appropriated for this purpose, if funds are appropriated, compensation may then be available for medical benefits, lost wages and death benefits to individuals for specified injuries.

The existing PREP Act declarations were amended in Spring 2009 to include H1N1.

DISTRIBUTION OF ANTIVIRAL MEDICATIONS IN MISSOURI

- Antiviral medications purchased with publicly funded monies through the SNS are to be used for **treatment only**.
- The model of delivery will vary in local communities depending on each jurisdiction's plan and resources.
- In general, antiviral medications will be delivered to pre-determined sites, such as local health departments, hospitals, and pharmacies.
- The amounts that will be delivered to the sites will be determined by the community's population size.
- Portion of antiviral medications will be pre-positioned within the State for easy access when needed.
- The Missouri Department of Health and Senior Services (DHSS) continues to work closely with local public health agencies (LPHAs) to enhance specific distribution plans of these assets for communities utilizing available health care providers and resources.

As part of antiviral medication planning with LPHAs, the state of Missouri has pre-positioned a portion of the SNS allocation of antiviral medications. These assets include limited amounts of Tamiflu tablets (30mg; 45mg; 75mg). A limited number of Relenza Diskhalers were pre-positioned as well.

LPHAs will utilize the SNS Missouri Health Strategic Architectures and Information Cooperative (SNS MOHSAIC) system for ordering antiviral medications from the SNS stockpile. LPHAs will work closely with community partners to integrate plans for antiviral distribution into existing pandemic influenza plans and identify the best method of distribution and dispensing for their population.

LPHAs will identify community partners who can prescribe antiviral medications for treatment and who would be willing to dispense this medication and comply with other stipulations set forth by DHSS and CDC regarding the distribution of subsidized medications. Community partners could include hospital pharmacies, retail pharmacies, health care providers, Federally Qualified Health Centers and other facilities with appropriate storage facilities, hours of operation and staff to dispense the medication.

USING ANTIVIRAL MEDICATIONS TO TREAT HIGH-RISK INDIVIDUALS

The CDC is strongly encouraging state health departments to use assets provided by the states and the SNS for treatment of high-risk individuals. These individuals may not have routine access to medications through commercial pharmacy distribution systems and may be unable to purchase antiviral medications prescribed to them. High-risk individuals are defined as having increased risk of developing severe disease or complications from influenza. The high-risk groups include:

- Pregnant women.
- Individuals with chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic hematological (including sickle cell disease), neurologic, neuromuscular or metabolic disorders (including diabetes mellitus).
- Individuals with immunosuppression, including that caused by medications or by HIV.
- People younger than 19 years of age who are receiving long-term aspirin therapy.
- Children younger than 5 years old. The risk of severe complications from influenza is highest among children younger than 2 years old.
- Adults 65 or older.

It is likely that current antiviral usage guidelines including high risk groups and prioritization recommendations will change when epidemiologic data on a specific pandemic virus becomes available or when supplies of antiviral medications are greatly increased.

Many communities have hospitals or clinic pharmacies that provide direct dispensing of medications or onsite prescription assistance programs for treatment of high-risk individuals that may not otherwise have affordable access. A broad, forward deployment of antiviral medications to these locations can help ensure that **underinsured or uninsured high-risk individuals with influenza** will be able to receive antiviral medications for treatment.

A forward deployment also can help ensure rapid dispensing of medication to those who might otherwise have limited or no access for obtaining medications through commercial pharmacies.

DHSS has provided consultation and training to LPHAs and their partners regarding antiviral security measures.

ANTIVIRAL MEDICATIONS ADVERSE EVENTS

For information on recognizing adverse events (side effects) related with use of each medical countermeasure, please refer to the respective EUA Fact Sheets for that product. Health care professionals and consumers may report serious adverse events (side effects) with the use of these products or product quality problems to the FDA's MedWatch Adverse Event Reporting program.

FDA's MedWatch can be reached:

Online: FDA's MedWatch Adverse Event Reporting program at
https://www.accessdata.fda.gov/scripts/medwatch/
Regular Mail: Use postage-paid FDA form 3500 and mail to:
MedWatch
5600 Fishers Lane
Rockville, MD 20852-9787
Fax: (800) FDA-0178
Phone: (800) FDA-1088

Additionally, questions related to adverse reactions may be directed to the DHSS, Department Situation Room (DSR) by calling 1-800-392-0272.

During the 2009-2010 influenza season an H1N1 information line (24 hour/day, seven days/week) was activated to provide information as well as answer calls regarding potential adverse reactions.

RESOURCES

Department of Health and Human Services Pandemic Plan
http://www.hhs.gov/pandemicflu/plan

Food and Drug Administration
http://www.fda.gov/RegulatoryInformation/Guidances/ucm125127.htm

Updated Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza
http://www.cdc.gov/flu/

Recommendations of the Advisory Committee on Immunization Practices (ACIP): Information for Health Care Professionals
http://www.cdc.gov/flu/professionals/antivirals/

Missouri Department of Health and Senior Services
http://health.mo.gov/emergencies/panflu/pangen.php
http://health.mo.gov/living/healthcondiseases/communicable/influenza/index.php

Pandemic Influenza Plan – Community Containment

For more information, contact Eddie Hedrick at Eddie.Hedrick@health.mo.gov or 573.522.8596 and
Dr. George Turabelidze at George.Turabelidze@health.mo.gov or 314.877.2826

INTRODUCTION

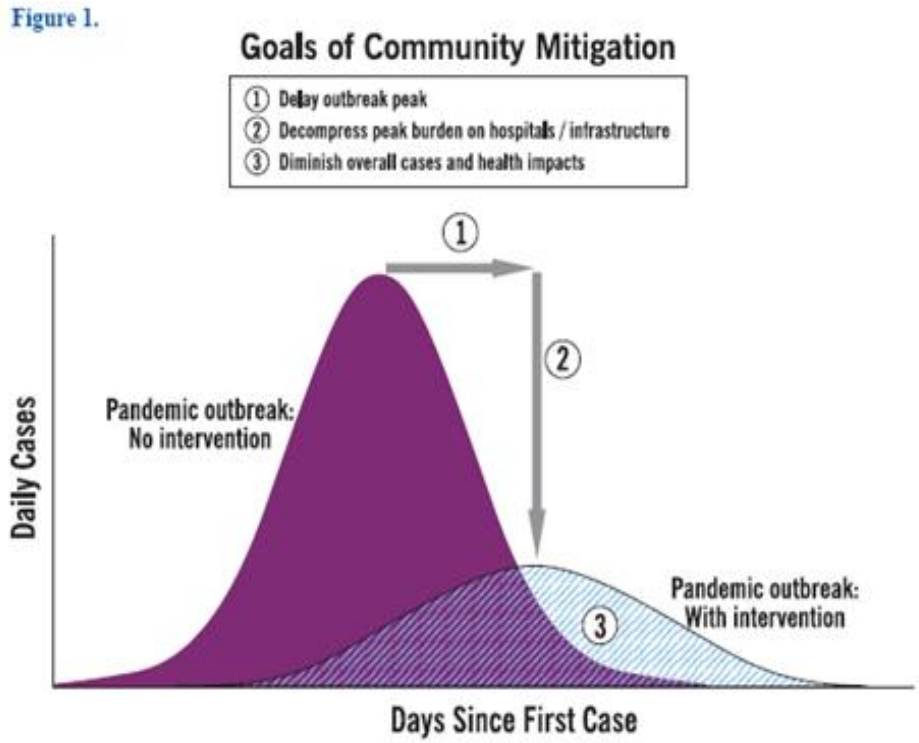
Early in an influenza pandemic, vaccine will not be immediately available for the prevention of infection. Most experts expect it to take a minimum of six to eight months, after a pandemic begins, to manufacture an adequate supply to provide nationwide coverage. In addition, antivirals such as Tamiflu® and Relenza® may become limited or antiviral resistance could increase as the pandemic progresses limiting their usefulness. For antivirals to be useful for prophylaxis, the medication must be taken throughout the period that influenza is present in the community. There is also the possibility that large-scale use of these medications may induce resistance in the pandemic strain of influenza. Therefore, the limited amount of antivirals present early in a pandemic will likely be used for treatment of high-risk, sick patients. Treatment will reduce suffering and death, but will only modestly affect community transmission.

For these reasons a menu of mitigation strategies known as non-pharmaceutical interventions (NPI) have been proposed to attempt to slow down the spread of the pandemic strain of influenza until such time that a vaccine becomes available (Figure 1.). The Missouri Department of Health and Senior Services (DHSS) recognizes the importance of these measures and will employ those shown to be effective to the fullest extent possible, in a consistent as possible manner, to meet the overall objectives of the department during a pandemic. The first objective is to reduce morbidity and mortality, the second is to prevent social disruption, and lastly, to minimize economic damages. Examples of NPIs that could be employed include voluntary isolation of cases, voluntary quarantine of household contacts, social distancing measures, cancellation of large public gatherings, school closures and infection control measures such as hand hygiene, cough etiquette and the appropriate use of personal protective equipment (PPE) such as face masks. In the past, various combinations of these measures have been used under epidemic and pandemic circumstances in an attempt to control the spread of influenza. Many mitigation strategies could have a serious impact on the ability of the health care system to deliver adequate care and could have potentially adverse consequences for the provision of essential services. Others could result in significant disruption of the social functioning of communities and result in possibly serious economic problems. The scientific evidence base for these measures is limited, however, the recommendations below are based on a thorough review of the facts that are available, common sense, the practicality of implementation and the ability for people to adhere to the recommendations.

In preparing these strategies, many individuals, agencies and organizations from the public and private sectors were consulted. Examples include: large and small businesses, faith-based organizations, law enforcement, emergency response, education experts, government agencies, local public health agencies (LPHAs), mental health, home health, hospitals, long-term care, media (including television, radio, newsprint and magazines), laboratorians, public representatives, legal authorities, legislators and others. In developing the school policies, the Missouri Department of Homeland Security's School Safety Subcommittee, which is comprised

of representatives from 26 school-focused organizations, participated in and approved the policies. These groups included the Missouri Department of Secondary and Elementary Education (DESE), Missouri School Board Association (MSBA), Missouri Association of School Nurses (MASN), School Administrators, Parent Teacher's Association and other key leaders in the education sector. DHSS brought together leaders from the business community from all over Missouri to assist in developing practical guidelines for businesses large and small. Special pandemic planning booklets were developed and disseminated to small and medium businesses with limited resources. A business toolkit to supplement the planning booklet was developed to assist small to medium businesses in developing pandemic plans. These tools were placed on the DHSS website for downloading. Campaigns have been launched to make sure this information is widely disseminated to the state's partners. The products that have been developed to educate the community, businesses and others have been placed on the DHSS web site at http://health.mo.gov/emergencies/panflu/pangen.php. These products include toolkits, PowerPoint presentations, DVDs, booklets, pamphlets, posters and other written materials. Every effort is being made to reach out and partner with those affected by this endeavor.

Figure 1.



The evidence to support various practices recommended in this section have been assigned a category based on the available scientific evidence supporting or not supporting the practice.

- Category 1 – Sufficient scientific evidence exists to support the practice and it should definitely be implemented.

- Category 2 – Sufficient scientific evidence does not exist to categorically state the practice must be implemented but it should be considered.

- Category 3 – Scientific evidence does not exist to promote the practice but evidence does exist to recommend against the practice. Category 3 primarily means that a practice should not be considered.

These various measures are summarized in the attached Intervention Decision Matrix (Attachment A) and the Categories are reflected as follows: Category 1, I = Implement; Category 2, C = Consider; Category 3, NR = Not Recommended.

OBJECTIVE

- To provide non-pharmaceutical mitigation strategies to lessen or slow down the impact of pandemic on the society
- To preserve scarce healthcare resources

PLANNING ASSUMPTIONS

- A new pandemic will be due to a new subtype of influenza A.
- Emergence of new influenza A viruses is inevitable.
- Community mitigation response will depend on pandemic severity (Table 1.). Preparations should be geared toward at least three levels of pandemic severity: "mild" pandemic (1968 or 2009 H1N1 like), "moderate" pandemic (1957–58 like) and "severe" pandemic (1918 like).

Table 1. Pandemic Severity Index (assumed illness rate= 20-40%)

	Category 1	**Category 2**	**Category 3**	**Category 4**	**Category 5**
Case-Fatality Ratio	<0.1	0.1-<0.5	0.5-<1.0	1.0-<2.0	>=2.0
Projected number of US population death	<90,000	90,000-<450,000	450,000-<900,000	900,000-<1.8 Million	>= 1.8 Million
Projected number of Missouri population death (2009 estimate)	<1,800	1,800-<9,000	9,000-<18,000	18,000-<36,000	>=36,000
Comparable Scenario	Seasonal Influenza	1957 and1968 Pandemic Flu	---	---	1918 Pandemic Flu

Gearing plans toward three levels of pandemic response will allow proper gauging of response and best match the appropriate levels of actions and activities to the current situation. In general, pandemic severity is defined not only by the genetic capabilities of the novel virus, but by the community it is interacting with. A well-prepared community with sufficient resources may manage a more virulent virus with minimal disruptive impact (that is - morbidity and mortality is suppressed and all critical services remain intact) while in a less prepared and resourced area morbidity may spike and services be overwhelmed. The goal of response is to employ the necessary measures to adequately depress the wave of morbidity and mortality to a level at or below the level of critical services capacity. Each community across the state exists in varying degrees of preparedness and resource strength, and must gauge and match their level of response accordingly. Additional planning guidance that outlines anticipated degrees of impact and response needed per level of pandemic severity can be found in "Assumptions Concerning Response to a Pandemic" in the Missouri Pandemic Influenza Response Plan.

- An effective response to any pandemic will require a coordinated community-wide effort from local, state and federal agencies, private businesses, individual citizens, elected officials and faith-based leaders.
- Risk groups for severe and fatal infections, in any pandemic, cannot be predicted with certainty.
- A pandemic could occur in any month, not only during the typical influenza season.
- Novel pandemic viruses normally have the same periods of infectivity as do seasonal influenza viruses, but each should be managed according to the best science.
- Pandemics historically have occurred in waves, with at least two waves likely. In an affected community, a pandemic wave has lasted about six to eight weeks with as little as 30 days between waves.
- Preparations should be made for outbreaks that will likely occur simultaneously across the state and nation, limiting the ability of any one jurisdiction to provide support and assistance to others.
- A new virus may be a re-emerging, previously known human virus subtype which has not recently been in circulation or a virus of animal origin, emerging either through stepwise 'adaptation' conferring greater affinity for humans or through a process of genetic 'reassortment' between the genes of swine, avian and human viruses or other animal species, or some combination thereof.
- From time to time, avian, swine or other animal influenza viruses will infect people directly exposed to infected avian species, swine or other animal species but may not necessarily evolve into pandemic viruses.
- Such a strain could first emerge anywhere, including Missouri.
- Whenever a new or novel influenza virus is isolated from an infected person, its potential to spread directly from person-to-person and cause outbreaks of illness needs to be assessed.
- False alarms are likely, but until it is known whether a new virus has developed which resulted in person-to-person transmission, its pandemic potential must remain under consideration and investigation.
- Vaccine for the novel influenza virus will likely not be available in Missouri before the virus reaches the state. Initial distribution of vaccine to Missouri will likely be limited and need to be prioritized to maximize effectiveness.

- Effective antivirals may be in limited supply and must be used per Centers for Disease Control and Prevention (CDC) recommendations to maximize effectiveness.
- Education, public health interventions, basic public health measures, and social controls must be relied upon initially to slow the spread of the disease within Missouri.
- Medical solutions (e.g., vaccine, antiviral medications, hospital capacity) to control an influenza pandemic may be limited, especially early in a pandemic.
- Education, public health interventions, basic public health measures and social controls must be relied upon initially to slow the spread of the disease within Missouri.
- Infection control (e.g., proper handwashing, and respiratory hygiene) strategies will be used to slow the disease, along with social distancing measures.
- Absenteeism will be the result of employees becoming ill, staying home to care for sick family members, children being sent home from school and from people refusing to go to work out of fear.
- People will be asked to voluntarily stay home if they are ill. However, many will not have adequate emergency food and medical supplies so they are unlikely to comply without adequate access to these items.
- Schools may be asked to close for substantial periods of time and children would be asked to stay home.
- School closures are likely to create unintended consequences that will need to be addressed prior to closures.

NON-PHARMACEUTICAL MITIGATION MEASURES

I. Individual Measures

A. Handwashing

Influenza viruses survive on the hands for less than five minutes, but regular handwashing is a common sense action that should be widely followed after coming into contact with ill persons or soiled surfaces. When hands are soiled it is important that soap and water be available for handwashing. Alcohol-based hand hygiene products do not work well in the presence of organic matter but offer an alternative for situations when hands are not visibly dirty.

B. Cough Etiquette

Covering one's mouth when coughing, preferably while using disposable tissues or coughing into the elbow, may be of some value in lowering the risk of transmission of influenza viruses and should become routine practice now, before a pandemic occurs.

C. Environmental Cleaning

Survival studies have documented that Influenza A and B can survive under the right conditions on hard, non-porous surfaces for approximately 24 to 48 hours and on cloth, paper, or tissue for 8 to 12 hours. However, low-level disinfectants are very effective in removing and killing these viruses. Ethyl or isopropyl alcohol, chlorine (100ppm; 1:500 dilution of 5.25 percent sodium hypochlorite), iodophors, phenolics quaternary

ammonium compounds and hydrogen peroxide are all effective disinfectants for killing influenza viruses. Cleaning with soap and water is a pre-requisite to disinfection, therefore, soiled surfaces should be cleaned with soap and water prior to disinfection or using a cleaner/disinfectant.

D. Personal Protective Equipment (PPE) (facemasks/respirators)

The preponderance of evidence points to the influenza virus being transmitted by contact and via large droplets. Adults with seasonal influenza can shed virus one day before symptoms appear and up to five days after onset of illness. Since pandemic virus most likely will be different from seasonal influenza viruses, the infectious period of people affected with a new pandemic virus may vary. Therefore, the selective use of masks (when close to an ill person) may not effectively limit transmission in the community and the emphasis should be focused on cough etiquette (see above) for persons with respiratory symptoms whenever they are in the presence of another person, including at home, school, work or other public places.

There is no strong scientific evidence available to support the use of respiratory protection in the community, at school or at work by healthy persons. In spite of this, it is acknowledged that fear will drive some members of the public to resort to wearing masks during a pandemic. Public health professionals must recognize that there is no evidence to support the practice but should not discourage it. In lieu of current science, the precise type of mask or respirator will be determined at the onset of a pandemic and guidance will be provided by CDC. The time spent in crowded settings should be as short as possible. Until such time as new data are available, the latest CDC Guidance based on the H1N1 pandemic experience (http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm (9-20-10) recommends that individuals who provide care for a sick person in which close contact is inevitable use a surgical facemask, if available. Additionally, providing information on the importance of distancing being a more appropriate strategy than masking, would also be helpful**.** Whenever possible, rather than relying on facemasks, close contact and crowded conditions should be avoided during an influenza pandemic.

Persons who are diagnosed with influenza or who have a febrile respiratory illness should remain at home until the fever is gone and the cough is resolving to avoid exposing other members of the public. If such symptomatic persons cannot stay home during the acute phase of their illness, it does make sense for them to wear a surgical mask when it is necessary to interact with others. In addition, masks are recommended for use by symptomatic, post-partum women while caring for and nursing their infants.

E. Recommendations

- Good handwashing, cough etiquette, and environmental cleaning are always recommended public health practices. These practices are currently promoted by DHSS and measures, such as public information campaigns to increase awareness, will be intensified during a pandemic. (Category 1).

- In general, respiratory protection is **not** recommended for general use by the public. (Category 2).
- Facemasks should be considered for use by individuals who enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearer's likelihood of coughing on others. The time spent in crowded settings should be as short as possible. (Category 2).
- Current CDC guidance (Sept., 2010) recommends that a surgical face mask is all that is necessary to care for a person infected with influenza. N-95 Respirators are not felt to be necessary. (Category 2).
- Persons with signs and symptoms of respiratory infection should wear a surgical mask when close interaction with others is necessary. (Category 2).

II. Community-Based Measures

Statewide consistency regarding the use of quarantine and isolation, school closures and use of PPE in the event of an influenza pandemic is of paramount importance for maintaining social stability, protecting public health and minimizing economic impacts. The timing or "Triggers" for implementing various interventions is also important. The information below has been assembled to assist local communities in assuring that these issues are approached in a reasonable, consistent manner based on the best available evidence.

A. Triggers and Duration of Interventions

The timing of various community mitigation strategies will influence their effectiveness. Implementing these measures prior to a pandemic may result in economic and social hardship without public health benefit and may result in compliance fatigue. No one is really sure of the appropriate timing for initiation of these interventions. **However, in Missouri the primary activation trigger for initiating interventions will be the arrival and community transmission of pandemic virus**. DHSS will closely monitor the pandemic with all available surveillance tools to maintain situational awareness of community impacts of the pandemic. Based on this information, intelligence assessments will be made and the appropriate level and timing of community based interventions will be utilized and put into place following protocols as outlined in the "Concepts of Operations" in the Missouri Pandemic Influenza Response Plan. A general approach to implementing various individual strategies can be found in **Attachment A-Pandemic Influenza Selected Intervention Measures Decision Matrix** at the end of this document**.** The duration of implementation of non-pharmaceutical mitigation strategies will depend upon many factors such as the severity of the pandemic and the total duration of the pandemic wave in the community. There are no clear-cut indicators, therefore the duration will be determined based on factors such as the excess mortality, case fatality ratios or other surrogate markers. The Decision Matrix document mentioned above may be helpful for state and local communities in making this decision.

B. Quarantine

This is likely to have a limited impact in preventing the transmission of pandemic influenza due to the short incubation period of the virus, the ability of persons with asymptomatic disease to transmit virus and the possibility that early symptoms among

persons with a novel influenza strain may be non-specific, delaying recognition and implementation of containment. However, early implementation of quarantine when pandemic influenza is first detected in the United States and when the scope of the outbreak is focal and limited may slow geographic spread. Examples of specific instances where quarantine may be helpful:

- For the first suspected or confirmed cases of novel influenza in Missouri. For example, suspected or confirmed case(s) of novel influenza A in person(s) who have traveled to an affected country and have been exposed to sick poultry, swine or other animal carriers or a laboratory-confirmed or epidemiologically linked human case(s) of novel influenza.
- Suspected or confirmed cases of avian or swine influenza A or another novel strain of influenza in travelers on airplanes, trains or buses about to arrive in Missouri.
- Suspected or confirmed cases of avian or swine influenza of any type in persons with known exposure to sick poultry, birds or swine in Missouri.
- Clusters of novel influenza A in small, well defined settings, such as a military base.
- Cases of laboratory exposure to avian influenza A (H5N1), 2009 H1N1 novel influenza, or influenza viruses with the potential to cause a pandemic (e.g., influenza A H2N2).

Later in a pandemic when disease transmission is occurring in communities around the state, individual quarantine is much less likely to have an impact and likely would not be feasible to implement. There are no historical or scientific studies that support large-scale quarantine *(cordon sanitaire)* measures of groups of possibly infected persons for extended periods in order to slow the spread of influenza (for example, quarantining cities, regions, states etc.). The negative consequences of large-scale quarantine are so extreme that this mitigation strategy should be eliminated from serious consideration.

Quarantine Recommendations

- Early enforced quarantine of small numbers of people when the pandemic virus is first introduced in the state may be helpful and should be considered in examples cited above. (Category 2).
- Large-scale enforced quarantine (*cordon sanitaire*) measures late in a pandemic should not be considered. (Category 3).
- Voluntary self-quarantine of persons exposed to persons who are ill with pandemic influenza will be recommended based on the communicability and severity of the pandemic virus. (Category 1).

C. Isolation

The purpose of isolation is to reduce influenza transmission by separating infected persons from uninfected persons. Isolation of sick persons will be valuable during all intervals of pandemic influenza. It is assumed, that isolation of cases when the novel virus first emerges can slow the initial spread of the pandemic. During later pandemic intervals, isolation will reduce the risk of exposing uninfected persons.

Isolating symptomatic influenza patients either at home or in the hospital, is the most important measure that can be taken to reduce the transmission of influenza and slow the spread of illness within a community. Those who are sickest will likely be the ones to seek medical care. They are also considered the most contagious. Due to the large volume of ill persons in a pandemic, hospitals and other health care agencies are likely to be overwhelmed. Therefore, voluntary self-isolation and self-quarantine of exposed persons will play an enormous role in slowing the spread of the virus.

Voluntary self-isolation - simply put, a policy of asking those who are ill and do not need specialized medical treatment to *"stay home if you are ill"* will do more good than any other interventions in a pandemic.

There are a number of considerations that could deter people from voluntarily staying at home that must be dealt with before this strategy is implemented.

- Basic medical and food supplies would have to be available.
  See http://www.health.mo.gov/emergencies/readyin3/.
- Because of economics it may be difficult to persuade those with no paid sick leave not to go to work.
  See http://www.health.mo.gov/emergencies/panflu/panbusiness.php.

Early in a pandemic when there is limited transmission in a community, LPHAs may go into homes or other settings to screen persons for signs and symptoms of influenza and identify their contacts. The practicality of doing this screening will depend upon an LPHA's staffing and resources and the severity of the pandemic virus. This practice, will therefore, vary in different locations.

The home is generally the preferred setting for isolation, as well as quarantine, but alternative sites may be necessary in certain situations. Persons who do not have a home suitable for this purpose (i.e. homeless), do not have a primary caregiver to care for them, or who require isolation away from home (e.g., during travel) will need to be housed in an alternative location. Special isolation facilities and staffing should be identified in advance and be available to operate. Because persons who have been exposed to pandemic influenza may be asked to voluntarily be quarantined for several days, and persons infected with influenza may require voluntary isolation for one week or more, it is important to ensure that the environment (home or facility) is conducive to meeting the individual's ongoing physical, mental, and medical needs.

Isolation Recommendations

Ill persons should be asked to voluntarily stay at home during their illness, and especially for the period of communicability of the particular pandemic virus. The information on the period of communicability of the pandemic virus as evidenced by the on-going epidemiological research will be distributed to the public. (Category 1).

Note: Mechanisms to support the request for ill persons to stay home must be in place if this strategy is to be successful. Therefore, the development of systems to provide food, supplies and medicine is a priority and is currently being developed.

Large-scale enforced isolation practices late in a pandemic should not be employed. (Category 3)

D. Social Distancing Measures

Social distancing strategies are non-medical measures intended to reduce the spread of disease from person-to-person by discouraging or preventing people from coming in close contact with each other. These strategies could include: closing schools; closing non-essential agency functions; implementing emergency staffing plans to increase telecommuting; flex scheduling and other options; and closing public assemblies or after school activities. The actual social distancing measures that will be implemented during various stages of a pandemic will be commensurate with the actual severity of the pandemic and the societal impact.

Results of studies of nonpharmaceutical interventions indicate a need for efforts to increase compliance with home isolation and social distancing measures. For example, an implementation of nonpharmaceutical interventions, such as home isolation, social distancing, and infection control measures, were studied during an outbreak of pH1N1 virus infection at a large public university in April 2009. Only 6.4% of students and 8.6% faculty with acute respiratory infection reported staying home while ill. Nearly one-half (46%) of student respondents, including 44.7% of those with respiratory infection, attended social events.

III. Schools

School systems represent an important element in pandemic influenza preparedness for several reasons, particularly since children easily transmit infectious diseases to one another due to their close proximity and their general lack of awareness and compliance with basic hygienic measures. Therefore, in a pandemic, long-term and widespread absenteeism may occur due to the lack of immunity. Until a vaccine becomes available, students, teachers and staff would be highly susceptible to a novel virus. This type of absenteeism occurs on a smaller basis annually due to seasonal influenza outbreaks. However, in a pandemic the impact would be much greater and the longer duration of the outbreak would create unique challenges. Probably the most controversial mitigation strategy related to schools is the concept of school closure during a pandemic. Currently, there is no consensus as to the effectiveness of this strategy. Models have suggested that if implemented early in a

pandemic, school closures may slow the spread. However, these models have serious flaws and have not considered the negative impacts of school closures. Historic data is only marginally instructive because there are significant differences in society, health and health care. Population density (nationally, locally, in schools and even in family homes) is very different. The speed of travel has increased dramatically and the ability of adults and children to move about and co-mingle with others changes interaction dynamics from previous pandemics. In addition, many historical accounts of the effectiveness of school closures on limiting the spread of infection in previous pandemics have been mixed. An investigation of pH1N1 in elementary schools found that pH1N1 outbreaks at schools can have substantial attack rates; however, grades and classrooms are affected variably, and that additional study is warranted to determine the effectiveness of school closure during outbreaks.

The concept of closing schools to limit the transmission of pandemic influenza has profound implications for the education of students and for the economy. As was seen in the spring of 2009, most school closures due to the H1N1 pandemic had apparently little appreciable impact on disease spread. They were not taken seriously by most people (i.e. individuals continued to engage in communal activities and promoted disease spread by going to malls, parks, amusement parks, etc.) and promoted public anxiety. A New York City survey of households affected by the 2009 pandemic influenza H1N1 - related school closures showed that, during closure, 30% of students visited at least one locale outside their homes. Investigation of pH1N1 outbreaks in U.S schools found that more participants reported adherence to hygiene measures, but fewer reported adherence to isolation measures.

While it may be necessary to eventually close schools, the goal of every community should be to keep schools open and safe whenever feasible. If closures are anticipated, it is important that the negative impacts of the closures on society, students, and staff be minimized by pre-planning for such an event. Communication structures must be enhanced and triggers for both closing and opening schools must be understood (see below). As stated above, in a pandemic it is essential that communities across the state be consistent in how school closings are handled and closing decisions should be based on the best science available and in collaboration with all stakeholders (students, parents, teachers, superintendents, state and local public health authorities, etc.). The following policies have been developed by the Homeland Security's Safe Schools Subcommittee to assist in this endeavor.

A. Overview of the Following School Policies

The policies outlined below should be integrated as part of the school district's overall crisis plan. Besides being effective in an influenza pandemic, the same policies will be helpful in averting many other crises.

School districts can take steps prior to a pandemic that will reduce the spread of all communicable diseases. The first step is education. Students, staff and community need to understand how infectious diseases are transmitted. The second step is training. Along with being taught how disease is transmitted, staff and students must be taught

techniques to reduce the chance of transmission, such as proper handwashing, how to cover a cough or sneeze, standard precautions, the importance of annual flu vaccinations, etc. Educational materials and tools for this purpose have been developed and can be found in the DHSS **Pandemic Influenza Community Preparedness Toolkit** at http://www.health.mo.gov/emergencies/panflu/pangroups.php.

Staff and students must be encouraged to stay home when they, or other members of the household are ill with flu-like symptoms, and maintenance staff must be taught how to properly clean and disinfect.

These policies also cover what the school district should do in case prevention methods fail. Most districts are prepared to deal with short-term school closures. However, in the case of a pandemic, schools may be closed for months at a time. School districts have to be prepared so that they can continue to communicate with staff, students and the community and deliver education and other services to students.

In addition, school districts must also be prepared for the psychological impact of a pandemic. People may be fearful but those who have been educated will be less so. Fears will be abated and tensions eased if the students, staff and the community know the district has a plan. The period after a pandemic is also important. School districts must be prepared to deal with the return of grieving students and staff.

Many children receive their only meals, or only hot meals, at school. In the case of a long-term school closure, these students may not have enough to eat. This policy encourages school districts to explore the possibility of continuing food service in some manner. It may require bulk purchasing and storage of certain supplies and may not be possible for some school districts. Currently a subcommittee is in the process of developing model food acquisition and distribution structures for individual communities to use when developing plans for their specific community needs in a pandemic.

The following information is provided to assist Missouri school districts in planning for an influenza pandemic.

B. Pandemic Influenza School Closure Policies

Goal: To keep schools open and safe whenever possible.

1. School Closure Trigger Points

- Student absenteeism - when it is not economically prudent to keep the school open.
- Teacher/staff absenteeism - when the number of staff available to supervise and instruct students drops below what is necessary to maintain a safe learning environment.
- To protect the public health and safety - when advised to close by state or local public health/safety authorities.

In a pandemic, short-term school closures (one to two weeks) will occur as a result of absenteeism and the ability to function as a school, much like what occurs during normal influenza season. The practicality of closing schools for longer periods of time (up to 12 weeks at a time according to CDC's "Interim Pre-pandemic Planning Guidance" of February 2007) is questionable and carries serious adverse consequences. For example, for working parents, school serves as a form of day care and, in some areas, a source of meals for children from lower income families. A portion of the state's workforce would be unable to go to work as long as children were out of school. Heightened absentee rates could cripple essential services (health care, first responders, utility companies, businesses, etc.). Teachers might not be paid and a great number of hourly workers (mall and fast food employees, school janitorial, security, kitchen staff, bus drivers, etc.) would face particular hardship. Prior to considering whether to close, it is important that every school district be prepared in advance to deal with these adverse consequences. Guidance based upon the above discussion will be provided by CDC based on the severity of the pandemic.

2. Authority to Close Schools

- In a pandemic, where closures would affect multiple jurisdictions and there is a need for consistency throughout the state, schools, child care centers, etc. may be closed and/or opened **only** by order of the director of DHSS or his/her designee. See 19 CSR 20-20.050 (3).
- The School Superintendent would have authority to close and/or open school for absenteeism due to School Closure Trigger Points as noted above.
- In Missouri, LPHAs would have the authority to close and/or open schools in their counties for the purpose of protecting the public health as noted in the safety trigger points above.

Schools may be closed to all staff and students or just students. If schools are closed only to students, staff members are expected to work regular schedules or use appropriate leave.

The superintendent may cancel all activities on district property by outside groups even if some schools in the district remain open. When a school is closed, activities scheduled at that school, including use by community groups, will be canceled. Activities held at another location that involve students and staff from a closed school may cancel at the discretion of the building principal in consultation with local health authorities and the school nurse.

Schools will be reopened by the superintendent but in cases where schools were closed by DHSS or an LPHA, only the director of DHSS, his/her designee, or the LPHA may authorize the reopening of schools. Schools will be reopened only when the situation that caused the schools to be closed has sufficiently abated.

3. Recommendations for School Closings

- School closings for the purpose of protecting the public health and safety will be directed by LPHAs and local school authorities. However, in a pandemic where closures would affect multiple jurisdictions, the director of DHSS will direct the closures.
- School closings for student or teacher absenteeism should occur as necessary and the LPHA and school authorities will direct the closings.
- As stated in the information above, the effectiveness of closing schools to slow pandemic still requires further study and depends on multitude of factors. Schools should follow closure recommendations based on specific circumstances of a particular type of the pandemic virus. School districts should have plans in place to:
  - Close schools as necessary as well as plans for reopening them.
  - Recognize trigger points for closing and opening schools.
  - Understand lines of authority in the community/state for closing and opening schools.

C. School Surveillance and Reporting

In a pandemic, enhanced surveillance of influenza cases is imperative to track the disease and to assist in making mitigation decisions.

Notice of school closing, reopening or cancellation of activities will be publicized through local media, the school district's web site and the school district's information line.

In Missouri, the school superintendent or designee is charged with monitoring reportable diseases in schools and reporting to public health authorities in accordance with the law. See 19 CSR 20-20.020 (8).

During a school closing, the school nurse will be responsible for compiling data relating to the health of individuals. The nurse will be responsible for appointing and training a staff member to receive and compile this health information in situations where the nurse in unavailable. If possible, another nurse will be selected before any non-medical personnel are used. Other staff members will be involved as necessary to monitor the health and academic progress of students and other staff members.

- http://www.flu.gov/professional/school/schoolchecklist.html
- http://www.ed.gov/admins/lead/safety/emergencyplan/pandemic/planning-guide/planning-guide.pdf
- http://www.ed.gov/admins/lead/safety/emergencyplan/pandemic/planning-guide/basic.pdf

D. School Restrictions

If incidences of contagious disease are high, the school nurse or designee may recommend that the superintendent impose appropriate social distancing rules, such as limiting or prohibiting individuals who are not students, staff and contractors providing services to the district from being in district facilities.

- http://www.flu.gov/professional/school/preschool.html
- http://www.hhs.gov/pandemicflu/plan/sup4.html#s4-V
- http://www.flu.gov/professional/school/schoolchecklist.html
  http://health.mo.gov/emergencies/readyin3/schools.php

E. School Communications

In an emergency such as a pandemic, information will generally flow from DHSS to the Commissioner and/or the Deputy Commissioner of DESE who are responsible for coordinating the state agency response. It would then be disseminated to superintendents, who would share with principals and then to school nurses. However, this chain may differ slightly in some communities (not all have school nurses on site) and will depend upon local plans. In Post Secondary Schools (PSS) the information would flow from DHSS to the Commissioner to the Public Information Officer (PIO) and out to the individual PSS contacts. The Administrator of the DHSS Section for Child Care Regulation would provide information to child care centers.

DESE and the Missouri Department of Higher Education will communicate information at all levels of a pandemic, including recovery, using their respective PIO or Commissioner for both media relations and communicating with their constituents.

The superintendent or designee will develop a communication system for the exchange of information between the school district and staff, students, parents and others when schools are closed. The system will be used to monitor the health of students and staff, deliver instruction and support services and to provide health and other appropriate information

The system will include a variety of methods such as internet, digital answering machines, e-mail, traditional mail, fax, etc. and designate individuals responsible for receiving and compiling information received. Each school district relies on their local resources for notifying parents of dismissal from classes or child care, communication during dismissal and re-opening. For example, in St Louis an automated voice mail system delivers a voice message to the students, families and staff phone numbers on file. Smaller school districts may use phone trees or other methods of communication. Each school district is responsible for having such a system in place.

In an emergency, DESE will communicate with local educational authorities through blanket e-mails to superintendents, the DESE web site, and follow-up e-mails to supervisors. Redundancy is accomplished through the Missouri Alert Network, phone trees, and media (radio, TV, newspapers).

F. Continuity of Education

In the case of a school closing due to a declared pandemic, every effort will be made to continue instruction through alternative methods. In case contemporaneous instruction is not possible, instructional staff will prepare a grade level or subject area supplemental unit of studies that students and parents can implement with minimal assistance from

staff. District administration in cooperation with instructional staff will oversee the development and collection of these units and determine an appropriate delivery system.

In the case of a long-term school closing, the school board may waive local graduation requirements.

Continuity of education planning is primarily a local responsibility, and activation of continuity of education plans will vary by school because their size and assets differ. The triggers for activating these specific plans should be contained in the all-hazards emergency plan of the individual schools. DESE will assist in delivering educational content that would be provided to students across the age spectrum primarily through the technological resources described here.

Using technological resources DESE has developed several initiatives, which will assist in providing continuity in education during an emergency such as a pandemic. Two current examples of these initiatives include the "Virtual School Initiative" and "SuccessLink". A description of each is provided below:

- **Virtual School Initiative**
  Missouri was the 25th state to implement the virtual public school system by the state board of education. .The virtual public school offers instruction in a virtual setting using technology, intranet, and/or internet methods of communication. Any student, kindergarten through grade twelve, who resides in Missouri, is eligible to use this system regardless of the student's physical location. In a pandemic, this system would be well suited to reach large numbers of homebound children and provide a system that would help to ensure the continuity of education.

- **SuccessLink**
  This is a valuable resource for Missouri educators. Funded through DESE and other public and private funds, SuccessLink disseminates and promotes the best teaching ideas throughout Missouri. Teaching activities and exemplary programs are recognized and shared freely throughout the state.

  The SuccessLink web site has a database filled with lessons written by Missouri teachers. Lessons are searchable by subject/grade, Show Me Standards, Grade Level Expectations and keywords. Lessons are performance-based, aligned to state standards and most have an assessment component.

  Many other valuable programs are offered through SuccessLink. These include Proven Practices for Student Success, SuccessLink Technology Initiatives, SuccessLink Curriculum Initiatives, Missouri Teacher Mentoring Blog Community and www.moteachingjobs.com. Special Education training will be provided through the same networks with the assistance of the special education division.

PSS will utilize online interactive lessons through a variety of sites, as well as through their website. Educational content for PSS will depend upon local resources and will be coordinated by individual schools.

G. School Confidentiality

Staff health information will be kept confidential and only released in accordance with school board policy and law. Student health information will be shared with state and local public health officials in accordance with the Family Educational Rights and Privacy Act (FERPA) and state law. School districts may provide individually identifiable student information to local or state public health authorities in conjunction with reporting a Category 1 disease under the health and safety emergency exception of FERPA. Individually identifiable student information received from any source, including state and local public health authorities, will be maintained and disclosed in accordance with FERPA and school board policy.

H. School Maintenance

The superintendent or designee will develop a cleaning/disinfecting checklist according to guidance from DHSS and the United States Department of Health and Human Services (HHS) to be completed by staff responsible for building maintenance. DHSS recommends that school authorities mandate staff or contracted janitorial services follow this guidance to best protect health in the school.

I. School Materials and Supplies

Handwashing conveniences will be available to students, staff and visitors to school district facilities. The superintendent will ensure that each district facility is equipped with adequate cleaning and Environmental Protection Agency (EPA) approved disinfecting materials and that each bathroom in the school district is equipped with soap, hot water and a system to dry hands. Waterless hand sanitizer may be used only when it is impractical to provide soap and hot water.

- http://www.cdc.gov/germstopper/materials/home_work_school.pdf
- http://www.flu.gov/professional/school/preschool.html

The superintendent will investigate whether the school district can continue to provide meals to students on free and reduced lunch programs when schools are closed. To determine if such a program is practically and financially feasible, the superintendent will consult with food service personnel regarding purchasing supplies, facility staff to determine storage options and local emergency planners to develop a preparation and delivery system.

J. School Staff Leave

Staff members who are ill or have members of their household ill with pandemic influenza are encouraged to stay home to promote healing and reduce the risk of infecting others. In the case of school closure due to a pandemic or other significant health event, the school board may provide additional paid leave to staff members based on the length

of the closure and the financial condition of the school district. However, staff members who are not ill may only use available leave in accordance with school board policy.

K. School Board Meetings

The school board president and superintendent will establish alternative methods for holding meetings that do not require face-to-face contact. Any method must be implemented in accordance with the Missouri Sunshine Law.

L. School Counseling

In the case of a pandemic, students and staff will face illness and death of friends and family. School district counselors, school social workers, and school psychologists must be prepared to provide support to students and staff when schools reopen after a pandemic. In addition, counselors must develop support programs that can be accessed while schools are closed. These programs will be part of the overall emergency plan and be developed in conjunction with the communication system used to monitor the health of students and staff and deliver instruction and support services.

M. Emergency Use of School Facilities

In the case of an influenza pandemic or other health event, the school district's facilities may be used as staging areas, shelters or to otherwise serve the community in accordance with school board policy and law. The superintendent will maintain an accurate inventory of property that may be useful in an emergency situation including, but not limited to, medical supplies, food, water, ice, vehicles, tools, communication devices, generators, building materials, cleaning supplies and bedding. The use of K-12 facilities for emergencies is governed at the local level. DESE can provide contact phone numbers and information for groups who are interested. The use of PSS facilities during an emergency is also controlled locally.

N. Department of Elementary and Secondary Education (DESE) and Post Secondary School (PSS) Coordination

In a pandemic, the person(s) responsible for coordinating the pandemic influenza response and the person the Governor would contact are:

DESE - Commissioner of Education and/or the Deputy Commissioner,

PSS - Representative that serves on the state level pandemic planning team is the Director of Administration and/or the Office Service Assistant.

IV. Colleges and Universities:

- Ensure continuity of essential operations according to the developed pandemic flu plan.
- Inform students about plans and procedures for providing and completing course work.
- Plan to provide ongoing assignments by regular mail, e-mail, internet links, telephone, teleconferencing, or calling into a recorded message at the university.
- Develop a list of students' mailing addresses, telephone/cell numbers, and e-mail addresses.

- Encourage faculty to develop distance-learning instructional materials.
- Ensure access to college/university healthcare staff.
- Develop a plan for accommodating students who remain on campus during an influenza pandemic.
- Plan to inform families that students may be dismissed during a pandemic.
- Educate students why they are being dismissed and the importance of not congregating in the community, about the influenza spread, and the differences between seasonal and pandemic influenza.
- Develop communication plans for advising employees, staff, and families of the resumption of programs and activities.
- Develop the procedures, activities, and services needed to restore the learning environment.

V. Workplace Policies

One of the primary needs during a pandemic will be to maintain essential governmental, community and business continuity. It is possible that 30 percent of the workforce may be absent due to illness and it may be difficult to maintain adequate staffing for many important functions. Many essential services may be disrupted if large numbers of public health, law enforcement, first responders, health care, communications, transportation and public utility personnel are not able to carry out critical functions due to illness. It is, therefore, extremely important that continuity of service plans be in place to minimize the impact. For additional pandemic influenza resources related to businesses visit http://health.mo.gov/emergencies/panflu/panbusiness.php.

VI. Faith-based Organizations

- Review pandemic flu plan with employees.
- Develop a way to communicate with your employees and volunteer staff during an emergency to provide information and updates.
- Where appropriate, align public health messages and recommendations with your organization's values and beliefs.
- Encourage staying at home when ill as well as the use of proper cough and sneeze etiquette and hand hygiene.
- Consider potential financial deficits due to emergencies when planning budgets.
- Develop collaborative efforts with other faith-based organizations to keep your organizations running.
- Develop plans for alternatives to mass gatherings, such as video and email messages, mailed newsletters, and pre-recorded messages.
- Identify activities, rituals, and traditions that may need to be temporarily suspended or modified during a pandemic.
- Identify people who are vulnerable and may need assistance in your community.
- Designate people from your organization to be responsible to check on specific vulnerable people or families in your community who may need assistance.
- Determine ways your facility might be used during a pandemic, such as a temporary care facility or a distribution site for providing meals, supplies, or medicine.

- Identify and meet with local emergency responders, health departments, and healthcare organizations to learn about their planning and educate them about your organization's planning.

VII. Education of the Public

Community preparedness can best be accomplished when the public is well informed about the dangers of pandemic influenza and the benefits of the containment measures. To this end, DHSS has developed a website (http://health.mo.gov/emergencies/panflu/pangen.php) where information and educational tools regarding all aspects of pandemic influenza can be found. In addition, educational booklets, DVDs, posters, signs and PowerPoint presentations have been widely disseminated throughout the state through LPHAs, schools, faith-based organizations, businesses and government agencies. Many of these tools are being used presently to assist communities in local planning. Their use will be expanded in pre-pandemic phases and throughout a pandemic as appropriate.

LPHAs will be responsible for educating the public when cases of pandemic influenza arise in their communities and they will monitor compliance with prevention strategies such as voluntary isolation and quarantine along with infection control strategies such as handwashing and respiratory hygiene in order to determine where further education is necessary. Contact tracing early in a pandemic will be done by LPHAs until no longer practical. The decisions regarding whether to perform contact tracing and how to manage the patients will be made on a case by case basis and will be made by LPHAs and/or DHSS. With limited personnel and the short incubation period of influenza, the feasibility of conducting contact tracing will be limited in most communities. Further information about pandemic influenza surveillance can be found in the Surveillance, Investigation and Data/Information Sharing annex.

Educating the public regarding voluntary isolation and quarantine will include information regarding the risk of disease development, protection of others and the duration of isolation or quarantine. In order for these measures to be effective, LPHAs and communities in general, are being instructed to support persons in isolation or quarantine by developing local systems to assure that food, water, supplies and medicines are available to those who are homebound. Special considerations must be given to children and those with special needs. Attachment B is a sample checklist to assist LPHAs in evaluating a residence to ensure the home environment meets the individual's ongoing physical, mental and medical needs.

VIII. Public Gathering Restrictions

The effectiveness of canceling public gatherings has not been established. However, it seems prudent that consideration be given to closing any planned public gathering during a pandemic as a method of limiting person-to-person contact. Decisions as to when to cancel public gatherings and under what circumstances will be made by LPHAs consistent with direction from DHSS.

If a public gathering is necessary, the following guidelines are appropriate:

- The facility where the gathering is held should be cleaned thoroughly utilizing normal cleaning products. Use clean water and detergent to scrub and sanitize, paying special attention to frequently touched and horizontal surfaces.
- Promote hand hygiene and cough etiquette.
- Space individuals at least three feet apart during large gatherings. Increasing the number of gatherings and limiting the number of attendees is one way of accomplishing this. Use audio/visual technology to broadcast the presentations to other rooms or buildings, allowing the groups to be split into smaller numbers.
- Encourage sick people to stay home.

Public Gathering Recommendations

- Canceling public gatherings during a pandemic may be recommended when public health authorities feel that such gatherings would lessen the spread of pandemic influenza. Cancellations will generally be directed by LPHAs consistent with directions from DHSS. (Category 2).
- If public gatherings are essential during a pandemic, the above guidelines should be followed. (Category 2).

IX. Public Transportation

Public transportation systems that bring many people together in close proximity to one another provides an excellent opportunity to transmit infectious agents. It is essential at all times that vehicles be kept clean and sanitized to protect the public and transportation workers. In a pandemic, this becomes even more important. In planning for a pandemic, owners and operators of public transportation should make sure that policies and procedures for the appropriate cleaning/sanitizing of surfaces which come into contact with passengers, as well as prevention strategies for both workers and the public regarding handwashing, respiratory hygiene and other infection prevention strategies are in place. These policies and procedures should be consistent with state and local guidance and be based on the most current scientific information available. Since most public transportation is locally owned and operated, this information can best be obtained from LPHAs or in this Community Containment annex.

The following guidelines can be utilized to assist owners and operators of public transportation to develop policies and procedures for reducing the risk of infection while operating or riding in a public transportation vehicle:

A. Training and Education

- Transportation personnel should be provided training and education regarding how influenza virus is transmitted and the appropriate precautions to take to reduce the risk to themselves and the public. This information can be found in the first section of this document where handwashing, respiratory hygiene and other infection prevention measures are discussed. They should also receive training regarding proper cleaning/sanitizing products and methodologies. They should be aware of the

signs and symptoms of influenza infection and recognize the need to stay home when they are ill during the pandemic.

- Public education advisories and public education materials should be provided which outline proper procedures to protect themselves and others from exposure to influenza. Samples of materials that can be used for these purposes can be obtained from LPHAs or found in the DHSS **Pandemic Influenza Community Preparedness Toolkit** found at http://health.mo.gov/emergencies/panflu/pangroups.php. These materials provide information about pandemic influenza, hand hygiene, respiratory hygiene and basic infection control messages. There are brochures, posters, fact sheets, DVDs and a variety of other guidance documents available in this toolkit. LPHAs will also provide current local information to make sure the information is applicable to the current situation.

B. Cleaning/Sanitizing Methods and Frequency

One of the properties that make the influenza virus able to pass easily from person to person is its ability to survive on hard, non-porous surfaces for approximately 24 to 48 hours and on cloth, paper or tissue for 8 to 12 hours. It is then potentially transferred from the surface to people's hands, which then carry the virus to the nose, mouth or eyes where it can then cause infection. Besides handwashing, thorough cleaning of contaminated surfaces is one of the most effective methods of reducing spread.

IMPORTANT- special techniques and products are not necessary. The influenza virus is very susceptible to most good detergents. Therefore, the most important issue is to make sure that the cleaning gets done. The thoroughness and frequency of cleaning during a pandemic will greatly reduce the risk of infection from these sources.

- Technique:
  1. Put on rubber gloves.
  2. Thoroughly clean the surfaces with warm water and detergent.
  3. Rinse.
  4. Let air dry.
- Frequency:
  The surfaces which come into contact with passengers such as the benches, seats, arm rests and hand rails should be cleaned whenever visibly soiled and at least before or after each shift.

More information for public transportation business owners can be obtained through the LPHA or on the DHSS web site at http://health.mo.gov/emergencies/panflu/panbusiness.php.

X. Return to the Workplace or to School

In order to decrease the chance of spreading pandemic influenza to others, people who have been diagnosed with pandemic influenza by a health care provider **or** who believe that they have pandemic influenza based on symptoms of illness should follow the following guidelines to determine when it is safe to go back to work.

- **Stay home and away from others** as much as possible to protect others from the infection. The duration of time to stay home will depend upon the circumstances and guidance will be provided by CDC specific to the epidemiology of the circulating pandemic virus. Studies show you are most contagious and likely to spread influenza virus to others for up to 10 days after your first symptoms appeared and for up to 48 hours after your fever has ended. It is important to remember that the epidemiology of a new pandemic virus could be different, and that this knowledge will become available to the public as pandemic unfolds. Study of the pandemic H1N1 virus showed that the median shedding duration from fever onset by rRT-PCR was 6 days (range, 1–13) and 5 days (range, 1–7) by culture. Following fever resolution virus was isolated for a median of 2 days (range, 0–5). Overall, shedding duration in children and adults were similar to seasonal influenza viruses. However, because shedding is not completely resolved after fever, CDC recommendations indicate that patients should be reminded about their potential to spread influenza and to follow recommended hand and cough hygiene recommendations. Studies are needed to better understand the relationship between detectable shedding and infectiousness.

- **If you are immunosuppressed, consult with your health care provider** for guidance on when you may return to your workplace or school and on possible treatment with antiviral medications. Being immunosuppressed means your body's immune system may be weaker than normal. For example, from cancer or cancer treatment, organ or bone marrow transplants, HIV/AIDS or from treatment with drugs such as steroids. Studies show that an immunosuppressed person who is infected with influenza may be able to transmit virus for a longer time than a person who is not immunosuppressed.
- **If you were or are taking antiviral medications for treatment of influenza, consult with your health care provider as to when to return to your workplace or school.** Antivirals for influenza are prescription drugs such as oseltamivir (Tamiflu®) and zanamivir (Relenza®). Specific guidance as to when a person can return to work or school will be provided by CDC based on the epidemiology of the circulating pandemic virus.

XI. International Travel

DHSS will effectively develop and implement travel recommendations based on assessment of risks to travelers and/or CDC international travel guidelines.

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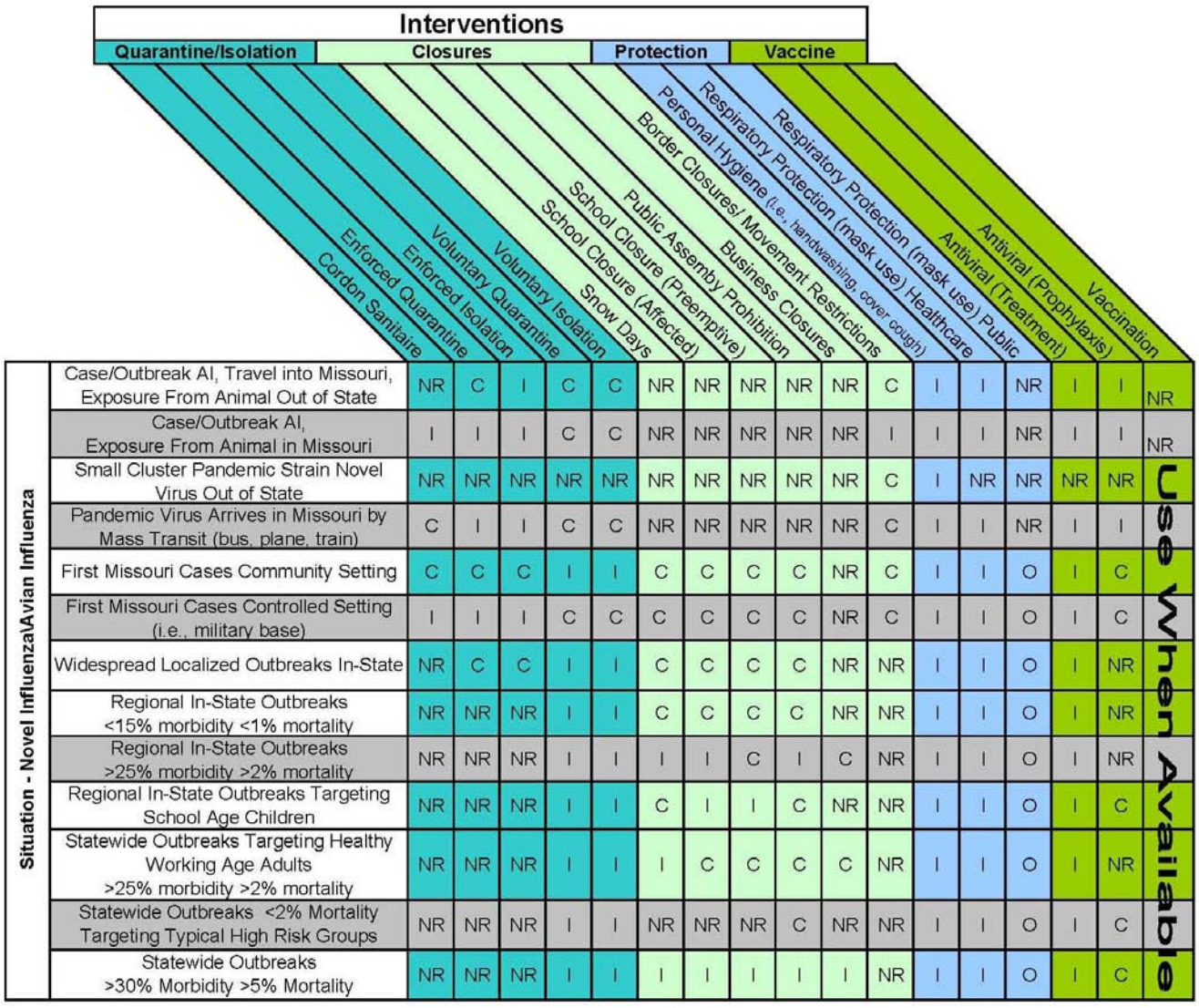
Pandemic Influenza
Selected Intervention Measures
Decision Matrix



Situation - Novel Influenza/Avian Influenza	Cordon Sanitaire	Enforced Quarantine	Enforced Isolation	Voluntary Quarantine	Voluntary Isolation	School Closure (Preemptive)	School Closure (Affected)	Snow Days	Public Assembly Prohibition	Business Closures	Border Closures/ Movement Restrictions	Personal Hygiene (i.e., handwashing, cover cough)	Respiratory Protection (mask use) Healthcare	Respiratory Protection (mask use) Public	Antiviral (Treatment)	Antiviral (Prophylaxis)	Vaccination	
Case/Outbreak AI, Travel into Missouri, Exposure From Animal Out of State	NR	C	I	C	C	NR	NR	NR	NR	NR	C	I	I	NR	I	I	NR	Use When Available
Case/Outbreak AI, Exposure From Animal in Missouri	I	I	I	C	C	NR	NR	NR	NR	NR	I	I	I	NR	I	I	NR	
Small Cluster Pandemic Strain Novel Virus Out of State	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	C	I	NR	NR	NR	NR		
Pandemic Virus Arrives in Missouri by Mass Transit (bus, plane, train)	C	I	I	C	C	NR	NR	NR	NR	NR	C	I	I	NR	I	I		
First Missouri Cases Community Setting	C	C	C	I	I	C	C	C	C	NR	C	I	I	O	I	C		
First Missouri Cases Controlled Setting (i.e., military base)	I	I	I	C	C	C	C	C	C	NR	C	I	I	O	I	C		
Widespread Localized Outbreaks In-State	NR	C	C	I	I	C	C	C	C	NR	NR	I	I	O	I	NR		
Regional In-State Outbreaks <15% morbidity <1% mortality	NR	NR	NR	I	I	C	C	C	C	NR	NR	I	I	O	I	NR		
Regional In-State Outbreaks >25% morbidity >2% mortality	NR	NR	NR	I	I	I	I	C	I	C	NR	I	I	O	I	NR		
Regional In-State Outbreaks Targeting School Age Children	NR	NR	NR	I	I	C	I	I	C	NR	NR	I	I	O	I	C		
Statewide Outbreaks Targeting Healthy Working Age Adults >25% morbidity >2% mortality	NR	NR	NR	I	I	I	C	C	C	C	NR	I	I	O	I	NR		
Statewide Outbreaks <2% Mortality Targeting Typical High Risk Groups	NR	NR	NR	I	I	NR	NR	NR	C	NR	NR	I	I	O	I	C		
Statewide Outbreaks >30% Morbidity >5% Mortality	NR	NR	NR	I	I	I	I	I	I	I	NR	I	I	O	I	C		

NR = Not Recommended
I = Implement
C = Consider
O = Optional

December 10, 2009

HOME ISOLATION/QUARANTINE CONSIDERATIONS
(Checklist)

This checklist can be used to evaluate the residence of those who are ill/exposed to determine if they have adequate supplies and services to assist them while home bound.

	Basic utilities (water, electricity, garbage collection and heating or air-conditioning as appropriate)
	Basic supplies (clothing, food, hand hygiene supplies, laundry services)
	Mechanism for addressing special needs (filling prescriptions)
	Mechanism for communications, including telephone (for monitoring by health staff, reporting of symptoms, gaining access to support services and communicating with family)
	Accessibility to health care workers or ambulance services
	Access to supplies such as thermometers, fever logs, phone numbers for accessing services and reporting symptoms and emergency phone numbers
	Access to mental health and other psychological support services

PERSONS WHO ARE ILL WITH PANDEMIC INFLUENZA SHOULD VOLUNTARILY STAY HOME WHILE ILL TO PROTECT OTHERS FROM THE INFECTION.

IN ADDITION, FAMILY MEMBERS AND OTHERS WHO HAVE BEEN EXPOSED TO PERSONS WITH KNOWN PANDEMIC INFLUENZA SHOULD ALSO STAY HOME TO PROTECT OTHERS.

Local Public Health Agency phone number _____

Local Hospital phone number_____

Local Ambulance phone number_____

	Pandemic Severity Index		
Interventions* by Setting	**1**	**2 and 3**	**4 and 5**
Home **Voluntary isolation** of ill at home (adults and children): combine with use of antiviral treatment as available and indicated	**Recommend†§**	**Recommend†§**	**Recommend†§**
Voluntary quarantine of household members in homes with ill persons¶ (adults and children): consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	**Generally not recommended**	**Consider****	**Recommend****
School **Child social distancing**			
-dismissal of students from schools and school based activities, and closure of child care programs	**Generally not recommended**	**Consider: ≤4 weeks††**	**Recommend: ≤12 weeks§§**
-reduce out of school social contacts and community mixing	**Generally not recommended**	**Consider: ≤4 weeks††**	**Recommend: ≤12 weeks§§**
Workplace / Community **Adult social distancing**			
-decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	**Generally not recommended**	**Consider**	**Recommend**
-increase distance between persons (e.g., reduce density in public transit, workplace)	**Generally not recommended**	**Consider**	**Recommend**
-modify postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theatre performances)	**Generally not recommended**	**Consider**	**Recommend**
-modify work place schedules and practices (e.g., telework, staggered shifts)	**Generally not recommended**	**Consider**	**Recommend**

Pandemic Influenza Plan – Mass Fatality Management

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INTRODUCTION

Current Missouri state plans include the State of Missouri Emergency Operations Plan (SEOP), Annex T – Mortuary Services, the DHSS Emergency Operations Plan, Annex K.1.9 – Mass Fatality Management and the Missouri Pandemic Influenza Response Plan that contains this annex.

The existing SEOP Annex T – Mortuary Services plan outlines response actions based in part on an earthquake along the New Madrid Seismic Zone as being the potential worst-case scenario. However, these plans do not take into consideration the long period of time associated with the "waves" that will occur during a pandemic event.

The DHSS Emergency Operations Plan, Annex K.1.9 – Mass Fatality Management outlines the basic response actions to be taken by the department during a mass fatality/mortuary affairs event. (See Annex K.1.9 – Mass Fatality Management for specific details.)

The Missouri Pandemic Influenza Response Plan, that contains this annex, outlines the pandemic specific response actions to be taken by DHSS during a mass fatality/mortuary affairs event.

OBJECTIVE

- To meet the demand for disposition of human remains during a pandemic influenza in order to allow communities and health care facilities to focus on protecting the health of the living.

BACKGROUND

The State of Missouri has a mixed medical legal death investigation system. This system is made up of county level coroners in the rural areas of the state, and in some cities such as Jefferson City, Joplin, St. Joseph and Cape Girardeau, with medical examiners covering the metropolitan areas of Kansas City, Columbia, Springfield, and St. Louis. These county coroners and medical examiners (MEs) are responsible for investigating sudden or violent deaths and providing accurate, legally defensible determinations of the manner and cause of these deaths. These vital duties require very close interaction with judicial, public safety and LPHAs. There are slight variances in the statutory descriptions of the coroner/medical examiner duties and responsibilities. See Chapter 58, RSMo (www.moga.mo.gov/STATUTES/C058.htm) for further information. Missouri does not have a state medical examiner, but would ask for the appointment of a State Medical Examiner by Executive Order in the event of a severe pandemic to assure coordination of mortuary services across the state.

The coroner is an elected position, every four years, at the county level. State of Missouri statutes do not require elected coroners to possess medical licensure or maintain any medical legal certifications. Any such requirements are the self imposed responsibility of the individual holding the office. Missouri statutes outline the type of reportable cases, jurisdictional requirements and authority for the appointment of deputy coroners. See Chapter 58, RSMo (www.moga.mo.gov/STATUTES/C058.htm) for further information.

The medical examiner is an appointed position by the county/city governing body. State of Missouri statutes specify that a medical examiner must be a physician duly licensed to practice by the Missouri State Board of Healing Arts. Missouri statutes also outline the type of reportable cases, jurisdictional requirements and authority for the appointment of medical examiner assistants. See Chapter 58, RSMo (www.moga.mo.gov/STATUTES/C058.htm) for further information. A forensic pathologist usually performs any autopsies requested or required by a coroner/medical examiner office. The forensic pathologist is a licensed physician with certifications by the American Board of Pathology in anatomic/clinic pathology and forensic pathology.

The determination as to whether an autopsy will be performed or not is at the sole discretion of the county coroner/medical examiner from whose jurisdiction the deceased is located or was transported from excluding any requirements outlined in the Missouri Child Fatality Review Panel (CFRP) system (www.moga.mo.gov/STATUTES/C058.htm). The State of Missouri mandated the CFRP system in 1991. This system ensures that child deaths (birth through age 17) are comprehensively reviewed.

GENERAL CONSIDERATIONS

In the event of influenza pandemic, local jurisdictions may have to be prepared to handle a rapidly escalating increase in the number of fatalities. The total number of fatalities (including influenza and all other causes) occurring within any local jurisdiction during a severe six to eight week pandemic wave may be as high as that which typically occurs over six months in the inter-pandemic period.

Due to the prolonged time frame and the scope of area affected by a severe pandemic event, it is likely that regional, state, and federal resources will be limited in their ability to provide assistance. Therefore, it is the intent of this plan to not only outline issues, processes and actions to be taken at the state level within the Missouri Department of Health and Senior Services (DHSS), but also to provide information and action steps, specific to a moderate to severe pandemic event, that local jurisdiction representatives like coroners/medical examiners, local public health agencies (LPHAs), hospitals, funeral directors, elected officials and religious representatives can utilize to assist them in local planning efforts to prepare for such a situation. In order to identify planning needs for the management of mass fatalities during a pandemic, it is important to examine each step in the management of a body under normal circumstances and then to identify what the limiting factors will be when the number of bodies increase over a short period of time. The table in Attachment A identifies the usual steps. Possible solutions or planning requirements are discussed in further detail in this chapter.

In a mass fatality/mortuary affairs event primary responsibility falls to the local coroner/medical examiner. However, in a pandemic event people will die from a known disease process, influenza. Therefore, it is possible that once a pandemic event has occurred, many cases will be identified as natural deaths and coroner/medical examiner jurisdiction will be waived. Deceased that are found at home or outside of an approved health care facility will still need to be reported to the local coroner/medical examiner, but most likely jurisdiction will be waived unless there are indications found of a suspicious death or other unusual circumstance.

Public health, vital records registrars, hospitals, funeral directors, embalmers and cemetery service providers all have secondary roles and responsibilities that are crucial to the overall success of any response and handling of a pandemic mass fatality/mortuary affairs event.

In order to develop guidelines or adjust existing plans to suit the pandemic situation, local pandemic planners should ensure that the following persons are involved in mass fatality planning:

- Coroner/Medical Examiner.
- LPHA Administrator/Director and the local vital records registrar.
- Sheriff and/or local law enforcement.
- First Responder community providing emergency medical services.
- Representatives of the mortuary services and/or the local funeral director.
- Representatives from local health care facilities.
- Representatives of local religious and ethnic groups.
- Social Service agencies and non-governmental organizations providing such services.
- Mental health representatives.

Existing disaster plans may include provisions for mass fatalities but should be reviewed and tested regularly to determine if these plans are appropriate for the relatively long period of increased demand which may occur in a pandemic, as compared to the shorter response period required for most disaster plans.

CONTINUITY OF OPERATION PLANS

In preparation for emergencies, it has become an essential activity for all public and private entities to develop and maintain Continuity of Operation Plans (COOP). Therefore, it is recommended that pandemic planning efforts include development of COOP plans. These plans would not only address internal failures and compromises of infrastructure, but would provide guidance to continuing daily activities and essential vital records functions in the event a large portion of an entities employees are unable to attend work. (See Attachment A.)

ROLES AND RESPONSIBILITIES

Missouri Funeral Directors And Embalmers Association Disaster Response Team (MFDEA-DRT)

According to the current State of Missouri Emergency Operations Plan: Annex- T, when a local mass fatality event surpasses the capabilities of local resources, assistance can be requested through the local Emergency Management Agency from the Missouri State Emergency Agency (SEMA) for the MFDEA-DRT. The MFDEA-DRT is an Emergency Support Function 8 resource that is supported by DHSS and in the event of a severe pandemic that overwhelms local resources, the MFDEA-DRT would be deployed through the State Emergency Operations Center under the direction of the Human Services Branch. In the event multiple local jurisdictions were overwhelmed DHSS would ask for the appointment through Executive Order of a State Medical Examiner to oversee local activities, the MFDEA-DRT, and any deployed federal mortuary assets. The MFDEA-DRT maintains a large cache of equipment and supplies that would be

released to backfill local supply shortages, and trained personnel could assist local jurisdictions in assessing needs and in providing expert advice and technical consultation in response.

Funeral Directors

It is recommended that all funeral directors coordinate with their local coroners/medical examiners and become involved in their disaster and pandemic planning activities with respect to the management of mass fatalities at the local level. Accepted practice for pandemic influenza planning has recommended that funeral directors consider it a part of their professional standards to make contingency plans for what would happen if they were incapacitated or overwhelmed.

Prepandemic interval

- Become knowledgeable in local integrated pandemic influenza mass fatality plan.
- Develop a surge plan to address staffing, temperature controlled temporary storage space, and supplies needed for the expected mass fatality.
- Coordinate with LPHA the infection control practices to be employed during a pandemic influenza.
- Ensure that system is in place to track the disposition and location of all remains released.
- Understand the proper death certificate completion and filing protocols.

Pandemic interval

Implement the surge plan.

- Adhere to infection control guidelines including Personal Protective Equipment (PPE)
- Communicate with healthcare facilities, coroners/MEs and cemeterians.
- Implement death certificate completion and filing protocols in accordance with the local pandemic influenza mass fatality plan.
- Keep the Coroner/ME informed about the capacity to accept new remains.

Funeral Homes And Crematoriums

In a severe pandemic, each individual funeral home could expect to handle about six months work within a six to eight week period. That may not be a problem in some communities, but funeral homes in larger cities may not be able to cope with the increased demand.

Individual funeral homes should be encouraged to make specific plans during the prepandemic period regarding the need for additional human resources during a pandemic situation. Crematoriums will also need to look at the surge capacity within their facilities. Most crematoriums can handle about one body every four hours and could probably run 24 hours to cope with increased demand. Cremations have fewer resource requirements than burials and, where acceptable, this may be an expedient and efficient way of managing large numbers of bodies during a pandemic.

Health Care Facilities

Prepandemic interval

- Healthcare facility mass fatality plans should be included in the local jurisdiction's integrated pandemic influenza mass fatality plan and must also integrate with the healthcare facility's overall pandemic influenza plan.
- Since a marked increase in deaths in hospitals, nursing homes and other institutions is likely, facilities should plan for more rapid processing of bodies.
- Facilities should evaluate their current morgue capabilities, including cooler space, as well as assess what their surge capabilities are and where additional temporary morgue space can be established.
- Health care entities should also work with the LPHA pandemic planners, coroner/medical examiner office and funeral directors to ensure that they have access to the additional supplies (e.g., body bags) and preplan what can be done to expedite the steps, including the completion of required documents (e.g., vital records), necessary for efficient deceased management during a pandemic.

During the pandemic interval, the health care facilities should:

- Implement the plan for identifying, tagging, tracking and storing remains until their release to funeral firm or coroner/ME.
- Ensure that each death certificate is medically certified.
- Keep coroner/ME informed on the number of remains awaiting removal.
- Promptly report required mortality data to the DHSS.

Coroners and Medical Examiners

Prepandemic interval:

- Develop a continuity of operations plan (COOP).
- Develop a surge plan addressing staff and supply needs, including PPE, body bags necessary to identify, tag, track, collect, store, and transfer remains resulting from a pandemic.
- Consult with LPHA regarding infection control practices to be employed during a pandemic influenza.
- Assess the capacity of the existing morgue facilities to provide adequate temperature controlled space for storage and processing of remains.
- Work with the local emergency management to identify a suitable temporary mortuary facility.
- Plan for:
  - Recovery of remains within jurisdiction from all places of death including residence, healthcare facility, penal institute and other locations.
  - Designating a space within the morgue to be set aside for the identification of unknown decedents.
  - Protocol for release of remains to funeral firms for burial or to cemeterians for cremation or temporary interment.
  - Maintenance of records for each remain released.

- Clearly understand and educate staff about the death certificate completion as defined in the plan for use during a pandemic.

During the pandemic interval:

- Implement COOP, operational and surge plans.
- Open temporary morgue facility(ies) where indicated.
- Implement infection control guidelines according to the current CDC and DHSS recommendations.
- Timely inform LPHA if remains begin to accumulate to unsafe levels.
- Ensure remains are identified, tagged, tracked and stored until released to funeral directors or cemeterians.
- Timely complete and file death certificates according to the established protocol in the pandemic influenza mass fatality plan.

Missouri DHSS

For the mass fatality management, DHSS will utilize the Emergency Response Plan, State Emergency Operations Plan and the processes of response as outlined in the Concept of Operations of the Pandemic Influenza Response Plan to guide the health response.

Prepandemic period

- Coordinate with coroner/medical examiner on support for influenza-related preparations. (Annex J, Mass Fatality Management).
- Work with county coroner/medical examiner and mortuary service providers to review resources and evaluate need for activation of local Emergency Operations Plan (EOP) and local Mass Fatality Plan.
- Review mass fatality/mortuary affairs related public information messaging templates for most current and accurate information.
- Coordinate mass fatality/mortuary affairs related public information messaging with DHSS Public Information Officers (PIO).
- Prepare Executive Order for the activation of a State Medical Examiner.
- Identify potential regulatory and statutory barriers to mass fatality management.
- Inform relevant professional groups and health care facilities about the process for completing and filing death certificates during a pandemic.
- Develop a plan to promptly collect mortality information due to pandemic influenza from healthcare facilities.
- Review requirements for autopsy and post-mortem testing in the context of a pandemic.
- Conduct trainings and exercises.

Pandemic Interval

- Implement procedures for filing death certificates and burial permits.
- Work with county coroner/medical examiner and mortuary service providers to locate resources in the community to meet unanticipated needs and issues.
- Share event related Health Alert information and updates with county coroner/medical examiner and mortuary service providers.
- Coordinate mass fatality/mortuary affairs related public information messaging with DHSS PIOs and Joint Information Center (JIC).
- Continue work with county coroner/medical examiner and mortuary service providers and Emergency Medical Departments (EMD) on mass fatality needs and resources and assist with obtaining and establishing alternate morgue sites as required.
- Deploy MFDEA-DRT resources and personnel to assist local communities.
- Activate State Medical Examiner to provide coordination of response through SEOC.
- Request Federal Assistance and assistance from other states, as needed and available.

PLANNING FOR TEMPORARY MORGUES

Additional temporary cold storage facilities may be required during a pandemic for the storage of bodies prior to their transfer to funeral homes. Each municipality should preplan, in cooperation with hospitals, funeral homes and adjacent jurisdictions, to identify sites that are suitable for temporary morgues or collection sites based on local availability and requirements. The resource needs (e.g. body bags) and supply management for temporary morgues should also be addressed.

A temporary morgue must be maintained between 35-39 degrees F. Examples are vacant public buildings, warehouses and hangers that can be cooled and secured. Communities should avoid schools, churches and other facilities that may have an emotional impact on the community. If a food establishment is used, the building may never be used for food again, so consider the cost in loss of business and resulting liability for any business. Community planners should include all funeral home establishments in their area in planning efforts to help determine their capacity to store remains. Other types of temporary cold storage to be considered may include refrigerated trucks, cold storage lockers or arenas.

Refrigerated trucks can generally hold 25 to 30 bodies without additional shelving. To increase storage capacity, temporary wooden shelves can be constructed of sufficient strength to hold the bodies. Shelves should be constructed in such a way that allows for safe movement and removal of bodies (i.e., storage of bodies above waist height is not recommended). If shelving is used a mechanical lift system will most likely need to be in place. To reduce any liability for business losses, municipalities should avoid using trucks with markings of a supermarket chain or other companies, as the use of such trucks for the storage of bodies may result in negative implications for business.

Consideration should be given to rooms that can be cooled down or that can be cooled by portable air-cooling units. Memorandum of Understandings (MOUs) with local generator and refrigeration equipment providers should be sought to provide equipment for surge capacity. If nothing else is available, consideration can be given to freezer use.

To establish a temporary morgue, the following information should be considered for space:

- Facility availability for timeframe necessary.
- Non-porous flooring or disposable flooring.
- Room for office space.
- Hot and cold water.
- Heat and/or air-conditioning.
- Electricity.
- Communication capabilities (multiple phone lines, fax line).
- Tractor-trailer accessible.
- Security for site and especially for entrances.
- Removed from public view.
- Ability to retrofit for cold storage.

Remember, the decomposition process begins immediately following death, cooling a body only slows the process. If the body is not going to be cremated, plans to expedite the embalming process should be considered since, in the case of a pandemic, bodies may have to be stored for an extended period of time. **Note:** Embalming is not required by law, so consideration can also be given to natural burials which do not require embalming.

Knowing your community's and surrounding communities' surge capacity will assist planning efforts. A survey was conducted in March 2007 of hospitals across the State of Missouri regarding their refrigerated morgue capacity, temporary on-site capacity, and temporary off-site capacity. A table in Attachment C outlines this information.

Consider family concerns regarding temporary holding. A number of religious and ethnic groups have specific directives about how bodies are managed after death, and such needs should be considered. Different religious groups, and others with specific cultural requirements, have specific directives for the treatment of bodies and for funerals. If remains are held in temporary holding locations, relatives should be notified of the process and how their decedent is identified and tracked so that future funeral services and burials may be planned by the families when normal funeral operations are able to resume. Consult the Mental Health Annex of this plan for additional considerations.

CAPACITY OF AND ACCESS TO VAULTS

A vault is a non-insulated storage facility for remains that have already been embalmed, put into caskets and are awaiting burial. Once embalmed or cremated there is no reason to store the bodies. The bodies are either interred or given to the families for final disposition.

In preparation for a pandemic, each community should identify the capacity of existing vaults and address access issues for temporary storage. In addition, the need for the creation of new temporary vaults to meet the increased demand during a pandemic should be addressed. These temporary vaults should be non-insulated, have some security features, such as covered windows, and locks on doors.

DEATH REGISTRATION

Death registration is a local public health/vital records responsibility and each agency has state laws, and regulations, as well as local administrative practices to register a death. Moreover, there is a distinction between the practices of pronouncing and certifying a death. In Missouri, only physicians and coroners/medical examiners may certify death.

In a pandemic situation, with the increased number of deaths, each jurisdiction must have a body collection plan in place to ensure that there is no unnecessary delay in moving a body to the (temporary) morgue. If the person's death does not meet any of the criteria for needing to be reported to a coroner/medical examiner, then the person could be moved to a holding area soon after being pronounced dead. Then, presumably on a daily basis, a physician could be designated to complete the death certificate.

Funeral directors generally have standing administrative policies that control when they may collect a body from the community or an institution such as a hospital. Evaluation of the current processes and identification of answers should include consideration of the regional differences in resources, geography and population.

AUTOPSIES

The county coroner/medical examiner will be responsible for remains. If the decedent was hospitalized, hospital care usually provides enough information to complete a Certificate of Death without performing an autopsy. However, just because a death was unattended does not mean an autopsy is necessary. Many deaths in a pandemic will not require autopsies since autopsies are not indicated for the confirmation of influenza as the cause of death. The county coroner/medical examiner will make the final decision regarding the need for an autopsy after discussions with the LPHA, local law authorities and/or the forensic pathologist(s) that perform their autopsies.

When a family/next of kin requests an autopsy to determine if influenza was a contributing cause of death, it is important to note that post mortem testing at the State Public Health Laboratory is relatively unproductive when used on deceased persons and will not be considered in most cases. Any questions regarding this should be referred to the Medical Epidemiologist or the State Epidemiologist.

Autopsies may be ordered for the first few cases in a geographic area. Pathology samples to go to the Centers for Disease Control and Prevention (CDC) are to be coordinated through the State Epidemiologist and State Public Health Laboratory Virology Unit. Collection protocols have been developed by CDC and are available at http://www.cdc.gov/h1n1flu/tissuesubmission.htm and http://www.cdc.gov/h1n1flu/post_mortem.htm.

At the point when the LPHA determines that no further information will be obtained by continued autopsies, the remains will be maintained in the counties as planned by each county. This decision will be made after consultations with the Missouri Department of Health and Senior Services (DHSS) and the county/city public health agency, pathologists and coroners/medical examiners. Coroner/medical examiners' offices where autopsies are performed will be unable to store or dispose of remains and, without prior agreement, will immediately

return remains to the county sending the case. Collection sites described later in this guide should be established for counties that are unable to handle their fatalities.

Further guidance will be available at the medical examiner's offices where autopsies are done and through local public health agencies.

Increased fatality situations may obscure homicides as deaths occur in homes. Suspected homicides, accidents, suicides, violent and sudden deaths and other unexpected or suspicious deaths are required to be reported as usual to the local coroner/medical examiner and referred for autopsy as required.

INFECTION CONTROL

Infection control and occupational health guidelines provide general recommendations on infection control for health care facilities and non-traditional sites during a pandemic. In general human remains pose no threat with regard to pandemic influenza to the community or those who handle them provided universal precautions are observed. It should also be noted that dead bodies do not cause epidemics. Nonetheless, personnel who handle human remains should receive proper vaccinations for both seasonal and pandemic influenza when the vaccine is available and if they have no contraindications for vaccination. Health care workers are expected to be a priority risk group for vaccination during a pandemic. The Occupational Safety and Health Administration (OSHA) pandemic influenza plan designates mortuary scientists as health care workers.

Funeral homes should take special precautions with deaths from influenza. Visitations could be a concern in terms of influenza transmission among attendees, particularly in smaller communities. It is the responsibility of public health to place restrictions on the type and size of public gatherings if this seems necessary to reduce the spread of disease. This may apply to funerals and religious services. The LPHA should plan in advance for how such restrictions would be enacted and enforced, and for consistency and equitability of the application of any bans. Families requesting cremation of their deceased relative are much less likely to request a visitation, thus reducing the risk of spreading influenza through public gatherings.

Individuals who are assigned to transport and care for the deceased should be provided the following information and necessary personal protective equipment (PPE):

- Routinely wear single layer gloves and a surgical/procedure mask (a particulate respiratory mask if handling the body immediately after death).
- If there is risk of splash or spray from blood/body fluids, wear a disposable long-sleeved, cuffed protective gown that is waterproof. The cuffs should be covered by gloves. A surgical cap and eye/face barrier should also be worn. Wear waterproof shoe covers if required.
- Do not smoke, eat or drink when handling the body.
- Avoid wiping your eyes, mouth or nose with your hands.
- Remove all PPE after handling each body and wash hands thoroughly.
- Decontaminate all surfaces and any equipment used to transport the dead body with an Environmental Protection Agency (EPA) registered disinfectant: www.epa.gov/oppad001/chemregindex.htm.

POSTMORTEM CARE

Human remains should be placed and transported in an enclosed plastic pouch. If a pouch is not available, one can cover or wrap the body with a sheet to eliminate the possibility of any leakage escaping into the environment. The complete name of the deceased, address of death scene, county of death, time of death, next of kin phone number and other pertinent information should be printed clearly on a tag that is securely affixed to the exterior of the pouch or cover. In the absence of a tag, this information should be written on the exterior of the pouch or cover with a magic marker.

Following containment of the body, PPE should be removed and placed in a Bio Hazard bag or plastic bag marked "Bio Hazard" and the bag disposed of in an authorized manner or container.

Upon arrival of the removal vehicle at the collection point or funeral home, removal equipment should be properly sanitized.

TRANSPORTATION

Under normal conditions, bodies are usually removed from the death scene by a coroner/medical examiner designee or by the funeral home of the next of kin's choice. However, in a pandemic situation, it may be necessary to utilize additional transport sources and types of vehicles. No special vehicle or driver license is needed for transportation of a body. Emergency medical services should not be contacted solely for the transportation of persons who have been pronounced legally dead.

Chapter 194, RSMo, addresses the transportation of remains by common carriers (such as passenger trains, buses and airplanes), but does not address transportation by family members. Transporting and disposing of remains by other than family members or for business purposes is deemed to be the practice of funeral directing and is subject to Chapter 333, RSMo, and attendant regulations. Therefore, there are no restrictions on family members transporting bodies of family members, if they have an official copy of the death certificate.

Records should be kept identifying the names of personnel that transported the body and the location where the body was transferred. Bodies should be covered so they are out of public view during transport. Transportation of remains to other states or countries for disposition requires compliance with the laws of other states or countries and applicable federal laws. Contact the DHSS Bureau of Vital Records or the local public health agency for additional guidance.

Transportation of bodies from their place of death to their place of burial in rural and isolated communities may become an issue, especially if this requires air transport. Local pandemic planners should consult existing plans for these communities and determine what changes can be made to meet the increased demand during a pandemic.

SUPPLY MANAGEMENT

This plan does not recommend that funeral directors order excessive amounts of supplies such as embalming fluids, body bags, etc., but that they have enough on hand in a rotating inventory to handle the first wave of the pandemic (that is enough for six months of normal operation). Fluids can be stored for years, but body bags and other supplies have a limited shelf life. Cremations

generally require fewer supplies since embalming is not required. Families having multiple deaths are unlikely to be able to afford multiple higher-end products or arrangements. Funeral homes could quickly run out of lower-cost items (e.g. inexpensive caskets such as cloth and some wooden caskets) and should be prepared to provide alternatives. Through funding from the federal government directed through DHSS, the MFDEA-DRT purchased and has available for a mass fatality event significant quantities of supplies, including approximately 7,000 body bags.

MENTAL HEALTH ISSUES

Medical examiners, coroners, responders, funeral home personnel and others working with decedents, may feel overwhelmed by the numbers of deaths occurring, working with family members of the deceased and personal effects that serve as reminders of the living. Self-care and reaching out to others in the profession for support are vital. When responders are overwhelmed, taking needed brief healthful breaks and time for family will assist them in staying emotionally fit and responsive. Needed support may be provided by one's faith community, family or through professional mental health resources available through local mental health providers. The list of community mental health centers is available at: www.dmh.mo.gov/cps/org/adminagents.htm. The Missouri crisis hotline number available 24 hours per day for persons in a mental health crisis is called the Access Crisis Information Line.

SPECIAL POPULATIONS

A number of religious and ethnic groups have specific directives about how bodies are managed after death, and such needs must be considered as a part of pandemic planning. Different religious groups, and others with specific cultural requirements, have specific directives for the treatment of bodies and for funerals. The wishes of the family will provide guidance, however, if no family is available local religious or ethnic communities can be contacted for information. The following resources may also be of assistance:

- National Resource Center for Advancing Emergency Preparedness for Culturally Diverse Communities www.diversitypreparedness.org/.

As a result of these special requirements, some religious groups maintain facilities such as small morgues, crematoriums and other facilities, which are generally operated by volunteers. Religious groups should be contacted to ensure these facilities and volunteers are prepared to deal with pandemic issues. Religious leaders should be involved in planning for funeral management, bereavement counseling and communications, particularly in ethnic communities with large numbers of people who do not speak the official languages.

RESOURCES:
The following data sets will be added to this plan as a linked resource through the Geographic Information System (GIS) as they are completed.

- Missouri Cemeteries
  - Data compiled from:
    - U.S. Geological Survey-GNIS
    - Missouri Department of Economic Development –Professional Registration: Cemetery Registration
      - Endowed
      - Non-Endowed
      - Not-for-profit
      - Municipal
- Missouri Parks
  - Data compiled from:
    - U.S. Geological Survey-GNIS
- Missouri Ice Rinks/Arenas
  - Data compiled from:
    - Internet Search
- Missouri Licensed Funeral Homes
  - Data compiled from:
    - Missouri Department of Economic Development –Professional Registration
- Missouri Licensed Crematoriums
  - Data compiled from:
    - Missouri Department of Economic Development –Professional Registration
- Missouri Coroners/Medical Examiners
  - Data compiled from:
    - Missouri Coroner/Medical Examiner Website
- Missouri Licensed Funeral Directors
  - Data compiled from:
    - Missouri Department of Economic Development –Professional Registration
- Missouri Licensed Embalmers
  - Data compiled from:
    - Missouri Department of Economic Development –Professional Registration

ADDITIONAL REFERENCES

1. Canadian Pandemic Influenza Plan, "Guidelines for the Management of Mass Fatalities During an Influenza Pandemic", February 2004.
2. Southwest Public Health District, Albany, GA.; "Pandemic Influenza Response Plan, Mass Fatality Plan", June 15, 2006.
3. Guidance on Preparing Workplaces for an Influenza Pandemic, US Department of Labor, Occupational Safety and Health Administration, OSHA 3327-05R, 2009 www.osha.gov/Publications/OSHA3327pandemic.pdf (accessed August 19, 2009).

STATUTORY CITATIONS

1. Missouri Revised Statutes, Chapter 58, Coroners and Inquests.

Continuity of Operations
Essential Vital Records Needs and Functions in a Mass Fatality Event

The following is intended to provide suggestions in the development of Continuity of Operation (COOP) plans for local public health/vital records in the event of mass fatalities resulting from major disasters or a pandemic.

A COOP plan should include recognition of the need to relocate operations to another location. This need may occur from either facility compromise or a need to function out of a satellite location. Action should be taken to identify possible pre-designated sites. Remember: sites utilized for other activities such a Mass Care and Point of Distributions (PODs) have similar characteristics, so beware of the same locations being designated with multiple roles. The primary and back-up sites should include, or have available, equipment and materials necessary to operate until primary site is functional again. Copies of the COOP plan should be available at designated primary site and any pre-designated alternate site. Listed below is a list of basic office supply items that should be considered for a vital records go-kit.

Supplies

- Supply of Standard Certificate of Death forms.
- Supply of Computer Birth/Death Certificates.
- Next-of-Kin Interview Forms.
- Copier (generator).
- Carbon paper or carbonless paper.
- Hand Seal.
- Certification Statements.
- Registrar's signature stamp.
- Date stamps.
- Black ink pads, black ink.
- Black ink pens, #2 black lead pencils.
- Plain white paper.
- Steno pads/log.
- Map of Missouri.
- Reference book of "Where to Write for Out-of-State Vital Records".
- Supply of birth/death applications
- Basic office supplies (staplers, staples, rubber bands, paper clips, etc.).
- Envelopes (window, plain, brown).
- Receipt books.
- Lock box.
- Tissue/Kleenex, paper towels.
- Cleaning materials (soap/hand wipes, bleach, alcohol).
- First Aid Kit.
- Camera and film.

- Flashlight and batteries.

Primary Vital Records Duties
- Registration.
- Issuance of certified copies.
- Fees (collection, security, etc.).
- Training (non-vital records personnel to assist in an emergency).

Registration
- Bureau of Vital Records staff will assist as assigned by the coroner/medical examiner in the collection of information pertaining to the victims for completion, processing and registration of death certificates.
- Bureau of Vital Records staff will assist local registrars in performing same functions as needed.
- Bureau of Vital Records Staff will assist in compiling lists of missing persons, when appropriate.
- Assigned Vital Records staff will be responsible for maintenance and security of all completed death certificates.
- Certificates will be processed and registered as soon as reasonably possible.
- Certificates registered with the local registrar will be maintained and secured at that facility until such time as they are able to forward originals to the Bureau of Vital Records office.

Issuance of Certificates
- Assigned vital records staff will be responsible for issuance of certified copies of death certificates for victims of mass casualties. Other requests will be processed according to established procedures, if functional at primary site.
- At primary site, if mainframe system is unavailable for daily operations to issue computer certifications, applications for certified copies may be taken and mailed at the earliest possible convenience.
- In an extreme situation, if phone system is available, local vital records staff may call to verify certificate availability before accepting applications. State Bureau of Vital Records staff will conduct manual search and call local area back.
- Suspension of 24-hour issuance of death certificates is effective in major disasters. Local registrars may continue to issue certified copies for additional certificates if possible upon request.
- In the metropolitan areas where file copies are maintained for that location, certified copies of exact duplicates may be issued upon request, if possible.

Fees
- If primary site is not functional, two assigned Bureau of Vital Records staff should be responsible for securing fees, signing and issuing receipts and balancing. Both will balance and sign balance sheet.
- Local Registrar will be responsible for securing fees taken in for their facility.
- Refunds should be processed according to established procedures as soon as reasonably possible for requested records that are not available.

Training

- A resource manual that includes basic training should be accessible if vital records staff is limited. Functions that could be performed by non-vital records staff are:
  - Review of certificates for completeness and accuracy.
  - Duplicate copies from copier.
  - Certify documents.
  - Mail certificates.
  - Number and date stamp certificates.
  - Answer phone.
  - Review of entries on certificates for blanks and/or inconsistencies, (such as age not calculated to agree with date of birth on death certificates, or no age given but a date of birth is).
  - Provide information on how to obtain copies of certificates and fees using guide sheet that should be available.
  - Provide information on how to review certificates using guide sheet that should be available.
  - Provide information on obtaining certificates from other offices using reference list that should be available with out-of-state vital records offices, other local registrars, etc.
- Training to certify a death certificate should include:
  - Duplicating original certificates on copier. Certificate may need to be duplicated and reduced and the copy used in certifying document. Certification statement is placed on the bottom covering the embalmer's statement. Certificate is embossed at bottom over certification statement.
  - Embossing certificates: Emboss on bottom of duplicated certificate by inserting between metal die for hand seal and impress. Since embossers may vary, instructions should be provided to use embosser model.
  - Mailing certificates: Computer certificates should be folded in three parts with customer address showing to be placed in window envelopes. If window envelope is not used, customer address should be handwritten on legal size envelope for mailing.

Table 1: Usual Process for Deceased Management

Steps	Requirements	Limiting Factors	Planning for Possible Solutions/Expediting Steps
Pronounced	Person legally authorized to perform this task.	If death occurs in the home, then one of these people will need to be contacted. Availability of people able to do this task.	Provide public education on how to activate or access medicolegal systems in place. Consider best utilization of medical and EMS resources currently in place. Consider planning for on-call system 24/7 specifically for this task.
Death Certified	Person legally authorized to perform this task.	Legally, may not necessarily be the same person that pronounced the death.	Consider having one authorized person perform this task en masse to improve efficiency. Ensure redundant backup is identified and outlined in plan. Consider need for or ability to do faster scene processing. Consider possible time delay between scene processing/certification and body pickup. Consider need for public education on altered standards due to pandemic event.
Body Pickup	Person(s) trained and authorized to perform this task.	Staffing and transport conveyance availability. Contracted transport resource availability.	Consider best utilization of resources "collecting" bodies and time associated with response and transport.
Body Wrapped	Person(s) trained to perform this task. Body bags	Supply of human and physical (body bags) resources.	Consider developing a rotating six-month inventory of body bags, given their shelf life. Consider training or expanding the role of current staff to include this task if not already a part of duties. Consider providing this service at location where body is found, in conjunction with pronouncement, if legally authorized. Otherwise, include in body pickup and transportation.
Morgue Storage	Suitable facility that can be maintained between 35-39 degrees F.	Capacity of such facilities.	Identify and plan for possible temporary morgue sites. Consider unavailability of reefer units. Consider portable air coolers and tents.

Steps	Requirements	Limiting Factors	Planning for Possible Solutions/Expediting Steps
Autopsy if required	Person qualified to perform autopsy and suitable facility with equipment.	Availability of human and physical resources may be required in some circumstances.	Ensure that physicians and families are aware that an autopsy is not required for confirmation of influenza as cause of death.
Cremation*	Suitable vehicle of transportation from morgue to crematorium. Availability of cremation service. A cremation certificate.	Capacity of the crematorium/speed of process. Availability of coroner/medical examiner to issue certificate for cases under their jurisdiction.	Identify alternative vehicles that could be used for mass transport. Examine the capacity and surge capacity of crematoriums within the jurisdiction. Discuss and plan appropriate storage options if the crematorium becomes backlogged. Discuss and plan expedited cremation certificate completion process.
Embalming**	Suitable vehicle for transportation to the morgue. Trained person. Suitable location.	Availability of human and physical resources. Capacity of facility and speed of process.	Consult with service provided regarding the availability of supplies and potential need to stockpile or develop a rotating six-month inventory of essential equipment/supplies. Consider what to do if shortage of embalming fluid occurs in pandemic event. Discuss capacity and potential alternate sources of human resources to perform this task e.g. retired workers or students in training programs. Consider "recruiting" workers that would be willing to provide this service in an emergency.
Death Certificate Issuance	Person legally authorized to perform this task.	Legally, may not necessarily be the same person that pronounced or certified the death.	Consider having appropriate amount of authorized person(s) to perform this task to improve efficiency and speed processing. Ensure redundant backup is identified and outlined in plan. Consider need for public education on altered standards due to pandemic event.

Steps	Requirements	Limiting Factors	Planning for Possible Solutions/Expediting Steps
Funeral Service	Appropriate location(s), casket (if not cremated), funeral director.	Availability of caskets. Availability of location for service and visitation.	Contact suppliers to determine lead time for casket manufacturing and discuss possibilities for rotating six-month inventory. Consider what to do if shortage of caskets occurs in pandemic event. Locate and acquire additional locations for surge and visitation. Consider alternate plans if Isolation/Quarantine issues arise.
Transportation to temporary vault or burial site	Suitable vehicle and driver.	Availability of human and physical resources.	Identify alternate vehicles that could be used for this purpose. Consider use of volunteer drivers.
Temporary vault storage	Access to and space in a temporary vault.	Temporary vault capacity and accessibility.	Expand capacity by increasing temporary vault sites.
Burial	Grave digger, space at cemetery.	Availability of grave diggers and cemetery space.	Identify sources of supplementary workers.

* Cremated bodies are not usually embalmed; families may choose to have a funeral service followed by cremation or to have the body cremated first and a memorial service later.

** Bodies to be buried may be embalmed, but legally are not required to be. Consideration should be given to need to be stored in a temporary vault prior to burial.

Table 2: Hospital Regions: Body Storage Capacity

Region	Number of Hospitals	Morgue Refrigerated Storage Capacity	Temporary On-Site Capacity	Temporary Off-Site Capacity
A	34	61 bodies	152 bodies	103 bodies
B	8	6 bodies	74 bodies	112 bodies
C	47	115 bodies	402 bodies	132 bodies
D	26	10 bodies	117 bodies	315 bodies
E	10	16 bodies	54 bodies	2 bodies
F	15	119 bodies	148 bodies	518 bodies
G	4	3 bodies	6 bodies	0 bodies
H	9	2 bodies	143 bodies	114 bodies
I	5	7 bodies	26 bodies	0 bodies

Pandemic Influenza Plan – Psychosocial Services Preparedness

For more information contact Jenny Wiley at Jenny.Wiley@health.mo.gov or at 573 751-4730

OVERVIEW

The response to an influenza pandemic will pose substantial physical, personal, social and emotional challenges to healthcare providers, public health workers, emergency responders, and the general public. The risk most likely will remain elevated for as long as the pandemic continues in the community. Prior experience with disaster relief efforts indicates that enhanced workforce support activities can help them remain effective during emergencies. A practical plan to address psychological aspects of pandemic is needed to ensure that hospitals, public health agencies, emergency responders, and providers of essential services are prepared to help their employees in strengthening personal resilience and professional performance. An essential part of this planning effort involves creation of alliances with community-based organizations and nongovernmental organizations with expertise in and resources for psychosocial support services or training. The Mental Health Response section addresses the needs of public health and healthcare workers, emergency personnel, their families, and the general public.

OBJECTIVES

- To assist workers and the general public in managing emotional stress and related personal, professional and family issues during the response efforts to an influenza pandemic.

BEST PRACTICES

Although planning must be premised on assumptions of success, the mental health and behavioral implications of failure must also be anticipated and considered as part of planning. Planning issues are highlighted in the chart below.

Preparedness and Planning	Initial Onset of Pandemic	Pandemic and Recovery
○ Public education ○ Leadership preparation ○ Sustained preparedness ○ Leadership functions	○ Communication ○ Tipping points ○ Surges in health care demands	○ Community structure ○ Stigma & discrimination ○ Management of fatalities

Three (3) general goals and associated activities have been identified for the public health and mental health fields to appropriately address the potential emotional and behavioral issues that would likely emerge in a pandemic event and are summarized in the chart below.

Measures to shape adaptive behaviors	Measures to reduce social and emotional deterioration and improve functioning	Measures to support key personnel in critical infrastructure functions
Guidance ○ that maximizes public trust and effective communication strategies ○ Guidance to maximize adaptive behavior change	Public information, guidance and support that ○ Increases hope ○ Enhances safety ○ Promotes calm ○ Encourages connectedness ○ Improves personal and community efficacy	○ Maximizing performance and resilience ○ Managing grief, exhaustion, anger, fear, family & self-care issues and resolving ethical issues

See Attachment A for public health and individual intervention strategies to support communities and individuals in coping with a disease outbreak. Attachment A is a matrix that provides a roadmap for the oversight, management and coordination of public mental health efforts in a pandemic outbreak.

PREPANDEMIC PERIOD

Mental health providers should focus on addressing the mental health issues associated with seasonal influenza as well as planning for those that may be generated by a pandemic. Collaborative efforts with community and faith-based organizations facilitate culturally appropriate mental health planning, preparedness, and response. Mental health providers should coordinate planning and response activities with government and non-government agencies.

Potential Activities

- Develop public education tools and materials in collaboration with public information specialists.
- Identify and develop pandemic influenza-specific educational tools and materials regarding the signs of distress, traumatic grief, coping strategies, and building and sustaining personal and community resilience.
- Identify and list behavior and psychological support resources.
- Increase awareness of potential mental health implications of an influenza pandemic.
- Provide information about psychological reactions to public health emergencies and recommendations for positive coping strategies.
- Maintain an updated website containing information about pandemic influenza-related mental health issues.
- Share resources through social media as appropriate.

Support mental health disaster training

Training strategies will need to consider ways to motivate stakeholders to invest in preparedness training and to evaluate the cost-benefit. Training content areas suggested for the various audiences are included as Attachment B. Some of the training resources available in Missouri are listed in Attachment C.

Faith-Based Organizations

The involvement of faith-based partners during a pandemic event will be crucial to promote well-being and spiritual, social and emotional strength for Missouri's citizens.

Descriptions of the partnering strategies that will benefit faith-based ministries in supporting mental health needs in a public health emergency follow:

1. Preparedness and planning for congregation, staff and community.
    - Use Centers for Disease Control and Prevention (CDC) checklist to plan for congregation.
    - Recognize the emotional and physical impact that a pandemic may have on a congregation.
    - Learn risk communication and learn best methods to communicate with congregants.

2. Develop partnerships.
    - Call the Local Public Health Agency (LPHA) to see if there are groups/congregations meeting to plan for a public health emergency and join those groups.
    - Discuss and plan with Ecumenical groups such as the Ministerial Alliance. Consider developing a Local Emergency Pastoral Care Committee to provide mutual support, staffing, etc. in a pandemic.
    - Identify other resources available through your congregational affiliation such as counseling centers, parish nurses, etc.
    - Develop memos or letters of understanding outlining the agreed upon activities and outreach between partnering faith-based organizations/congregations.
    - Members of a faith that has specific cultural practices during grief periods or whose members may limit medical interventions due to their beliefs should work with public health authorities in advance of an emergency to promote understanding and to plan for responses that diminish inappropriate interventions.

MENTAL HEALTH INTERVENTIONS

Content areas:

Goals of Intervention

- Promote preparedness.
- Develop resilience.
- Mitigate risk factors.

Role of all Mental Health Staff

- Planning.
- Public education.
- Communication.
- Workforce preparedness and training.
- Resource development.
- Community development.

Community Mental Health Role at Local Level

- Collaboration.
- Inform and influence policy.
- Set structures for assistance and develop surge capacity.
- Integrate substance abuse counseling with at-risk individuals.
- Assess interoperability of communications technologies, i.e. phone, telecommunication, etc.
- Advocate for at-risk populations and those with functional needs and/or access issues.

Workforce Development

- Leadership preparation and functions.
- Promote awareness and increase capacity for personal and work-related preparedness, i.e. human resource policies.

- Train responders in evidence-based mental health response skills. (Workforce Materials are listed in Attachment C: Current Status of Resources).
- Promote resilience building, stress management and self-care.

In Missouri, psychosocial support services are becoming institutionalized within health care and first responder organizations due to continued psychological first aid (PFA) training throughout the state for diverse groups. Educational materials are prepared for employees and ready to be distributed through health care partnerships during public health emergencies. Other materials to be developed as needed.

Public Education

- Cultivate relationships with and educate media.
- Promote preparedness campaigns that address safety and resilience rather than imminent threat.
- Promote mental health and prevention efforts to build emotional resilience.
- Target at-risk groups and integrate substance abuse and relapse prevention efforts.

Community Development:

- Partner to address needs of disability community and other at-risk groups.
- Develop resources for and partnerships with diverse cultures within communities.

Public Mental Health Authority at State Level

- Interagency collaboration to develop guidance.
- Policy development and leadership preparation.
- Infrastructure support for rapid assistance.
- Plan and develop infrastructure for Implementation of Federal Emergency Management Agency (FEMA) Crisis Counseling Program (CCP), if available, or other fiscal resources.
- Mutual aid strategies among community mental health centers, with American Red Cross, other Volunteer Organizations Active in Disaster (VOAD) agencies.

Workforce Development:

- Continuity planning.
- Training for public health, other health care providers such as hospitals and primary care, mortuary workers, mental health, etc.
- Involvement in state sponsored exercises.
- Competency-based workforce standards (self-care, cultural competencies and use of interpreters, licensure and certification standards).
- Ongoing resource development.
- Agencies should develop alliances with community based organizations and non-governmental organizations with expertise in and resources for psychosocial support, services and training.

PANDEMIC PERIOD

Persons who believe they have been exposed may out-number those actually exposed. Communication and planning for the needed messages and behavioral responses will be important public health activities to prevent the medical response capacity from being overwhelmed.

In early pandemic responses, the Center for the Study of Traumatic Stress, *Mental Health and Behavioral Guidelines for Response to a Pandemic Flu Outbreak,* recommends preparing for three following responses:

Communication: Wide dissemination of materials that normalize stress reactions and emphasize hope, resilience and natural recovery. Collaborate with media to clearly and repeatedly inform the public about the rationale and mechanism for distribution of limited supplies.

Tipping Points: Certain events may occur that will either increase or decrease fear and helpful or risk behaviors. Deaths of vulnerable individuals such as children, unexpected or new risk factors, and shortages in supplies are typical.

Support Mental Health Disaster Training: The training content can be adapted to fit the current status of the disease. Content areas that should be considered for the pandemic period are listed in Attachment B, II. *Pandemic.*

MENTAL HEALTH INTERVENTIONS

The following content areas have been identified for use during a pandemic:

Goals of intervention:

- Safety and survival;
- Meet basic needs;
- Effective communication;
- Effective risk communication incorporating of skills for the "new normal" including safe behavioral practices and routines such as social distancing.

Role of Mental Health Staff:

- Protection.
- Reduction of stress and arousal.
- Reassurance.

Community Mental Health Role:

- Basic Needs.
- Psychological First Aid.
- Monitor environment and Identify tipping points.
- Technical assistance, consultation and training.

Public Mental Health Authority

- Establish linkages with State Emergency Management Agency (SEMA), The Missouri Department of Health and Senior Services (DHSS), Federal Emergency Management Agency (FEMA) and Center for Mental Health Services (CMHS) to authorize availability of FEMA immediate services program and to identify tipping points.
- Activate mental health response consistent with functions listed above.
- Utilize crisis counselors.
- Provide hotline as response and referral resource.
- Disseminate mental health outreach materials.
- Participate in Missouri Voluntary Organizations Active in Disaster and the Governor's Faith-based and Community Service Partnership for Disaster Recovery (Governor's Partnership).
- Coordinate service delivery and develop linkages with mental health services offered by Red Cross, Salvation Army and other VOADs.
- Authorize and fund use of interpreters.
- Establish communications with Community Mental Health Centers (CMHCs) in affected areas.
- Assess impact on populations with access and functional needs.
- Explore availability of FEMA Regular Services Program and explore other grant resources for behavioral health outreach.

Work Force Development

- Incorporate psychosocial support services into occupational health and emergency preparedness planning and through PFA training for a variety of responders.
- Provide mental health messages to DHSS to be included within the DHSS Health Alert/Health Updates disseminated statewide to health care workers during a pandemic.
- Provide mental health messages to DHSS public information officers for inclusion within letters from the Director of DHSS to employees.
- Provide informational materials to Missouri Department of Mental Health (DMH) and DHSS staff.
- Encourage use of the State Employee Assistance Plan as needed for psychosocial support services for employees and their families.
- Provide informational resources for the mental health hotline numbers.
- Encourage implementation of workforce resilience programs.
- Provide resiliency materials developed by the CDC, Health Resources & Services Administration (HRSA), National Institute of Health (NIH), Substance Abuse and Mental Health Services Administration (SAMHSA) and others that address healthcare and training issues
- Provide *Behavioral Health Emergency Plan Template for Healthcare Agencies* to health care organizations.

In later pandemic response and recovery, the Center for the Study of Traumatic Stress in *Mental Health and Behavioral Guidelines for Response to a Pandemic Flu Outbreak* emphasizes the management of the community structure, stigma and discrimination, and fatalities.

Community Structure: Maintaining the formal and informal community social support is important, even if conducted electronically or virtually. Web, social media, telephone, television and radio will be important communication tools to instill normalcy, plan for regular activities and manage community and organizational distress and behaviors. The Center encourages providing tasks for community action that can supplement needed work resources, decrease helplessness and instill optimism.

Stigma and discrimination: Stigma and discrimination may marginalize and isolate certain groups and impede recovery. Address stigmatization through information and training. Attention to managing social conflicts in the immediate response and recovery period will take on added significance.

Management of fatalities: The community must anticipate and plan for response to mass fatalities and to the management of bodies. Local officials must be aware that containment measures related to bodies may conflict with religious rituals of burial and the usual process of grieving which may have a negative impact on a community.

MENTAL HEALTH INTERVENTIONS

The following content areas have been identified for the pandemic period:

Goals of intervention:

- Adjustment.
- Appraisal.
- Effective risk communication.
- Incorporation of skills for the "new normal" including safe behavioral practices and routines.

Role of all Mental Health Staff:

- Provide information and assistance to orient affected parties.
- Needs assessment.
- Referral or service provision.

Community Mental Health Role:

- Culturally competent needs assessment to determine status and how well needs are being addressed for all populations as well as the recovery environment.
- Conduct mental health surveillance to inform response and recovery efforts.
- Foster resilience.

Public Mental Health Authority

- Establish linkages with SEMA, DHSS, FEMA and CMHS.
- Work closely with VOAD organizations including American Red Cross (ARC) and National Organization of Victim Assistance (NOVA).

- Support the risk communication effort of DHSS by providing mental health specific information.
- Monitor DMH Access Crisis Intervention Hotline to determine if calls are received due to the Pandemic. Look for tipping points regarding the need for a separate hotline to solely concentrate on stress issues related to the pandemic.
- Work with DHSS regarding the mental health risk communication messages that need to be delivered during mass vaccination. Stress management tips, information for at-risk groups, and information on where and how to seek professional assistance.
- Support the workforce coping with large numbers of deaths. Train supervisors how to support workers who have losses.
- Establish communications links with CMHCs in affected areas.
- Conduct needs assessment for FEMA crisis counseling program application if available.
- Explore other federal grant resources that may be available for behavioral health outreach

Supporting Families Coping with Death

Recommendations for supporting individuals and families experiencing deaths are listed below. Address emotional aspects of a positive death experience regarding rituals, communication, support and assistance during the period when death is imminent and after death anticipate the following:

- How to help children and others in the household learn coping skills.
- How to recognize potential for survivor guilt and blame and when to seek professional mental health help.
- Self-care tips for caregiver's physical and emotional health.
- Provide pro-active information about state and local requirements regarding what to do in the event of a death in the home.
- Provide hotline tailored to death issues, staffed by people prepared to deal with issue.
- Partner with faith communities and funeral industry for consistency of message, in providing emotional support and dissemination of factual information about bodies and grief.
- Encourage volunteer activities that are safe and do not promote contagion such as delivery of food and other items with no personal contact (i.e. drop-offs).
- Encourage "flu recovered" individuals who now have immunity to assume responsibility for those aspects of life requiring exposure to contagion, taking care not to place adult responsibilities on children.

Work Force Development

- Make available phone, web and other social media supports for a long response.
- Continue to offer educational materials regarding the cognitive, physical, behavioral, spiritual and emotional reactions that might be exhibited by patients, their families and by staff. Include reactions that indicate a mental health referral is needed.
- Provide communication materials that assist with sensitivity to cultural issues.
- Provide *Behavioral Health Emergency Plan Template for Healthcare Agencies.* Stress employee support during planning and reemphasize during the pandemic period.

- Offer information for health care agencies regarding developing stress control/resilience teams and their purpose and function.
- Supply confidential telephone support lines staffed by behavioral health specialists.
- Encourage work places to develop services for the families of employees, especially support services that might be needed for employees with sick family members.

RECOVERY PERIOD

Support Mental Health Disaster Training
Training materials need to focus on referral and treatment, grief and bereavement, and resilience and recovery. Content areas by audience for the recovery period are identified in Attachment C: III. *Recovery.*

Partner with Faith-Based Organizations:
- Use partnerships to support the community through memorials, special events, etc., to help rebuild the fabric of the community and to support families and individuals who have lost loved ones or who will have long term effects from the illness due to disabilities, etc.
- Celebrate your congregation's ability to meet together again if public services were canceled.
- Plan programs to support those recovering. Consider the long term physical, emotional, social and economic impact of the emergency on families such as disabilities, loss of income, inability to meet basic needs, etc. and how faith organizations can respond.
- For congregations suffering great losses of members, consider meeting with sister congregations to work together toward recovery.
- Initiate support groups to assist those with longer term disabilities as a result of illness, their family members and those in grief over losses.
- Learn the signs of depression, and suicide risks. When needed, refer to pre-identified mental health professionals.

MENTAL HEALTH INTERVENTIONS

Content areas:

Community Mental Health Role:
- Monitor the recovery environment.
- Foster resilience and recovery.
- Community development – encourage development of Long-Term Recovery Committees.
- Public education.
- Traditional mental health services.

Public Mental Health Authority:
- Assess need for FEMA regular services program, CMHS' Substance Abuse Mental Health Services Administration (SAMHSA) Emergency Response Grant funds or other funding streams available.

- If regular services grant not pursued, participate in and coordinate with the Governor's Partnership.
- Coordinate with Suicide Prevention Project, DMH for materials and outreach.
- Conduct data collection and analysis to inform program management and future mental health response efforts.

Work Place Recovery:

- Supply materials about grief and bereavement in the work place to assist in recovery.
- Review policies and how they support or hinder grieving workers in their recovery.
- Consider support groups to assist with healing.
- Celebrate getting back to a "normal" schedule while remaining flexible for those who need it.

Long-Term Recovery

The recovery phase will be an extension of on-going mental health response. The planning framework out-lined in the Department of Mental Health Community Mental Health Response Plan for disaster events is the *Missouri Model For Mental Health Response and Recovery After A Public Health Event* matrix available at: http://dmh.mo.gov/disaster/plans.htm. This document is intended to provide a procedural approach to managing the mental health response throughout a pandemic. Specific activities for the recovery phase include but are not limited to:

- Re-establishing pre-event functional abilities and a new "norm" for post-pandemic social behaviors.
- Helping families and individuals cope with traumatic grief issues.
- Adjustment to family reconfiguration and adjustment due to death, disability and economic difficulties.
- Community activities that promote social cohesion and unity such as recognition and appreciation rituals and memorials, community "self-help" activities and partnerships that strengthen mutual and natural support efforts, and "anniversary" events to assist individuals and communities to move forward in their recovery.
- Resilience development strategies that promote individuals and communities efficacy.
- Resource development for long term mental health services and supports for large numbers of individuals dealing with emotional recovery such as depression, substance abuse, anxiety, and Post Traumatic Stress Disorder (PTSD).

Attachments

A. Public Health and Individual Intervention Strategies Matrix

B. Content of Training

C. Current Status of Resources

Attachment A:
Public Health and Individual Intervention Strategies

The following chart summarizes both public health and individual intervention strategies to support communities and individuals coping with a pandemic disease outbreak. This framework provides a roadmap for the oversight, management and coordination of public mental health efforts in a pandemic outbreak.

	PUBLIC HEALTH	INDIVIDUAL
PROMOTE SENSE OF SAFETY	▪ Establish which environments are safest. ▪ Educate people how to make their own surroundings safe ▪ Provide an accurate, organized public voice to help circumscribe threat ▪ Inform the media to convey safety and resilience rather than imminent threat ▪ Encourage individuals to limit media exposure o Recommend limiting time talking about trauma if anxious and depressed o Educate parents regarding limiting and monitoring news exposure for children	*Goals* ▪ Make choices between safe and unsafe activities, environments ▪ Increase sense of safety. Incorporate skills for "new normal" to maintain changes in behavior and routines that are "safer" *Techniques* ▪ Use of imagery techniques in natural settings ▪ Use of techniques to help people keep their minds based in reality ▪ Understand discrimination practices in the face of trauma ▪ Develop awareness of trigger events
PROMOTE CALM	▪ Help people directly solve concerns ▪ Give information about safety of family and friends and their status in terms of risk ▪ Large-scale community outreach and psycho-education about the following topics o Post-trauma reactions that are understandable and expectable o Anxiety management techniques for common post-trauma problems o Signs of severe dysfunction o Limiting media exposure for those with mid-level problems of anxiety o Receiving brief news reports from a friend or family member, for those with more severe emotionality	▪ Therapeutic grounding (for those re-experiencing symptoms) such as "you are in a safe environment now" ▪ Breathing retraining ▪ Deep muscle relaxation ▪ Understanding stress reactions to reduce anxiety associated with reactions ▪ Stress management training ▪ Cognitive reframing – changing focus, sense of time, thoughts and beliefs to change to positive actions
PROMOTE SELF AND COMMUNITY EFFECTIVENESS	▪ Provide people with outside resources ▪ Create a way to manage and orchestrate people's resources ▪ As much as possible, involve victims in decision-making regarding policy ▪ Promote activities that are implemented by the community such as o Religious activities	▪ Remind individuals of their strengths and skills ▪ Encourage active coping ▪ Enhance sense of control over traumatic stressors ▪ Help to readjust expectations and goals

	PUBLIC HEALTH	INDIVIDUAL
	○ Meetings ○ Rallies ○ Collaboration with local healers ○ The use of collective healing and mourning rituals ▪ Foster competent communities that: ○ Encourage the well-being of citizens ○ Provide safety ○ Make material resources available for rebuilding and restoring order ○ Share hope for the future ○ Support families who are the main provider of mental health care after disasters ▪ Foster the perception that others are available to provide support, which: ○ Mitigates the perception of vulnerability ○ Emboldens individuals to engage in adaptive activities they might otherwise see as risky	▪ Teach individuals to problem-solve and set achievable goals
PROMOTE SOCIAL CONNECTEDNESS	▪ Identify those who ○ Lack strong support ○ Are likely to be more socially isolated ○ Have a support system providing undermining messages ▪ Help individuals identify and link with loved ones ▪ Increase the quantity, quality and frequency of supportive transactions ▪ Address potential negative social influences *(i.e., mistrust, in-group/out-group dynamics, impatience with recovery, exhaustion, etc.)*	▪ Train people how to access support ▪ Provide formalized support ▪ Address discordance among family members
INSTILL HOPE	▪ Provide services to individuals to help them get their lives back in order ▪ Develop advocacy programs to aid victims ▪ Support rebuilding of local economies ▪ Media, schools, and universities, and natural community leaders (e.g., churches, community centers) should help people to: ○ Link to resources ○ Share experiences and hope ○ Memorialize and make meaning ○ Accept that life and everything around them may have changed	▪ Identify, and concentrate on building strengths ▪ Normalize responses ▪ Indicate that most people recover spontaneously ▪ Highlight already exhibited strengths and benefit-finding ▪ Manage extreme avoidance behavior ▪ Develop awareness to reduce self-defeating self statements ▪ Discourage risk taking behaviors ▪ Encourage positive coping behaviors ▪ Encourage appreciation and recognition for family "heroes" ▪ Encourage short & long term goal-setting

I. Preparedness and Planning

This will be the most intense period of training to prepare various audiences for the emotional, behavioral, cognitive, and spiritual consequences of a pandemic event.

Training Content – All Audiences:

- Human behavior and reactions to public health emergencies and containment measures.
- Planning for surges in demand in high emotion circumstances.
- Risk communication principles and skills especially related to "tipping points" that might lead to social disruption or unrest.
- Psychological first aid skills (including trauma-informed assessments) with attention to grief and bereavement issues.
- Referral indicators, strategies, and contact information.
- Stress management and self-care.
- Fact sheets to disseminate regarding stress, grief, coping in public health emergency.

Additional Content for Target Audiences

Target Audience Content: Public Health, Other Health and Mental Health Care Workers (public and private sector) and Hotline Workers

- Systemic interventions to promote safety, calm, confidence, connectedness and hope consistent with best practices.
- Importance of sharing psycho-education and resource materials.
- Strategies and best practices in pandemic.

Target Audience Content: Emergency Responders, Coroners, Medical Examiners and Funeral Directors

- Systemic and individualized interventions to promote safety, calm, confidence, connectedness and hope in the context of traumatic grief and loss.
- Need to accommodate religious and cultural preferences to extent possible and advance planning with community.

Target Audience Content: General Public and Populations with Access and Functional Needs– including culturally diverse groups

- Resilience.
- Familiarity with behaviors that promote safety in contagious disease.
- Preparedness and planning for social distancing and containment measures such as shelter-in-place, quarantine and school closures.

Target Audience Content: Schools

- Fact sheet resources for children and caregivers to educate regarding stress reactions, self-care, etc. consistent with guidance described in best practices.
- Mental health referral agreements.
- School preparedness flu planning guidance.

- Plans for continuity of education.
- Strategies for maintaining friendships while practicing social distancing.
- Encouraging healthy use of electronic networking with parental involvement.

Target Audience Content: Faith-Based Leaders and Communities
- Unique role of faith communities in mass fatality scenario.
- Identifying and working with at-risk populations.

Target Audience Content: Civic/Service Organizations (volunteers, care-givers and natural helpers)
- Volunteer role in assuring accurate and consistent information is communicated.
- Identifying and working with at-risk populations.

Target Audience Content: Large Employers and Human Resource Professionals
- Mental health referral and Employee Assistance Program) (EAP) agreements.
- Workplace preparedness.
- Human resource policies regarding sick leave, family leave, etc.

Target Audience Content: Government Leaders, Public Officials and Public Information Officers
- Systemic interventions to promote safety, calm, confidence, connectedness and hope consistent with best practices in previous section.

II. Pandemic

Training content would depend on the seriousness and spread of the pandemic based on Missouri surveillance. The following content areas are suggestive of some issues that may need to be addressed within training for various audiences. Training may need to be provided during this period through webinars, telecasts, etc. to decrease and prevent exposure.

Training Content – All Audiences:
- Public education that promotes safety, calm, self-efficiency, connectedness and social cohesion, and hope.
- Psychological first aid skills (including trauma-informed assessments) with attention to grief and bereavement issues and mass fatality scenarios.
- Paper and electronic resource brochures and fact sheets related to stress, grief, etc.
- Referral inventory of phone numbers (voice and fax) for additional mental health needs and referral form for ease of referral and follow-through.
- Accurate, up-to-date social media sites.
- Self-care and peer care training and fact sheets.

Target Audience Content: Health Care Workers
- Strategies to manage surge demand and mitigate panic and disruption for managing highly distressed individuals and minimizing further exposure to trauma.
- Psychological first aid assessments and skills checklists including guidelines for death notifications.

Target Audience Content: Mental Health Workers – including public and private sector

- Mental health intervention strategies and best practices in pandemic as described in previous section such as cognitive behavior therapy, exposure management and desensitization techniques, etc.

Target Audience Content: Public Health

- Risk communications tools, prepared scripts and public education materials to instruct the public from both physical and emotional perspectives on how to promote safety, calm, confidence, connectedness and hope.
- Dissemination of public education materials that integrate resilience and mental health strategies including website addresses.
- Activation of pre-planned EAP strategies including resource lines for public health workers facing increased demand.

Target Audience Content: Emergency Responders, Human Service Organizations, Civic and Service Organizations, including volunteers, caregivers and natural helpers

- Self-care fact sheets, checklists and buddy-forms for peer care.
- Activation of pre-planned EAP strategies including resource lines to handle increased demand.
- Rumor control hotline.

Target Audience Content: Large Employers and Human Resource Professionals

- Checklists for changes to workplace environment and policies.
- Rumor control hotline and consideration of positive, accurate use of social media.
- Activation of pre-planned EAP resource lines.

Target Audience Content: Government Leaders, Public Officials and Public Information Officers

- Risk communication checklists and toolkits.
- Prepared scripts and public education materials to promote safety, calm, confidence, connectedness and hope.
- Checklist of tipping points that indicate potential for social unrest or panic.

Target Audience Content: Coroners, Medical Examiners and Funeral Directors

- Mental health guidelines for death notifications.
- Activation of pre-planned EAP resources and information lines.

Target Audience Content: Schools

- Checklist of school continuity activities that incorporate strategies to promote safety, calm, confidence, connectedness and hope.
- Activation of pre-planned resource lines for handling increased stress of school personnel.

Target Audience Content: Faith-Based Leaders and Communities

- Checklists of faith-based activities, rituals and traditions that promote safety, calm, confidence, connectedness and hope.
- Rumor control hotline.

III. Recovery Period

The following content areas have been identified for the pandemic recovery periods.

Training Content – All Audiences:

- Trauma informed mental health assessments including checklists of at-risk populations and characteristics.
- Suicide risk information and suicide prevention strategies with contact lists and resources.
- Paper and electronic resource brochures and fact sheets.
- Referral numbers (voice and fax) for specialized mental health needs and referral form.
- Resilience building checklists and recommendations for self-care, peer care and supervisors.

Target Audience Content: Health Care Workers

- Best practice guidelines for referral and treatment of chronic stress and mental health conditions associated with trauma (depression, anxiety, post traumatic stress disorder (PTSD), etc.) as well as traumatic grief recovery.

Target Audience Content: Mental Health Workers – including public and private sector

- Consultation checklists to advise organizations regarding systemic level interventions to promote recovery and hope.
- Guidelines for referral and treatment of chronic stress and mental health conditions associated with trauma (depression, anxiety, PTSD, etc.).

Target Audience Content: Public Health

- Mental health indicators to monitor that are predictive of chronic public health needs.
- Research participation guidance and contact lists for public health workers and clientele.

Target Audience Content: Emergency Responders Coroners, Medical Examiners and Funeral Directors

- Continued Employee Assistance Program or other insurance program access giving special attention to at-risk responder groups (younger, other losses, etc.), substance abuse and relapse prevention, and family systems.
- Self-care fact sheets, checklists and buddy-forms for peer care.
- Activation of pre-planned EAP strategies resource lines.

Target Audience Content: General Public

- Public education that promotes connectedness and social cohesion, establishing new normal (including reconfigured families), addressing survivor guilt, "trigger events", and hope.

Target Audience Content: Human Service Agencies Active in Recovery, Civic and Service Organizations – including volunteers, caregivers and natural helpers

- Paper and electronic resource brochures and fact sheets related to recovery including domestic violence and substance abuse.
- Referral numbers (voice and fax) for specialized mental health needs.

Target Audience Content: Large Employers and Human Resource Professionals

- Checklists for changes to workplace environment and policies.
- Activation of pre-planned EAP resource lines.

Target Audience Content: Government Leaders, Public Officials and Public Information Officers

- Risk communication checklists and toolkits.
- Prepared scripts and public education materials to instruct the public from both physical and emotional perspectives about promoting safety, calm, confidence, connectedness and hope.
- Checklist of tipping points that indicate potential for social unrest or panic.

Target Audience Content: Schools

- Checklist developed as part of the Mental Health Annex in the Missouri Emergency Response Information Plan for schools, for recognition activities and strategies to promote safety, calm, confidence, connectedness, hope and sensitivity for survivors and remembrance for students and staff who died.
- Activation of pre-planned EAP resource lines.

Target Audience Content: Faith-Based Leaders and Communities

- Checklists of faith-based activities, rituals and traditions that promote safety, calm, confidence, connectedness and hope.

Plans:
Department of Mental Health Emergency Operations Plan: This plan addresses the outreach to communities after a disaster or terrorism event. This Pandemic Influenza Plan-Mental Health is an appendix to the Emergency Operations Plan (EOP).

Training curriculums developed in coordination with the Missouri Department of Mental Health and St. Louis University Heartland Centers include
- Disasters and Mental Health: A Basic Approach for Health Care Workers.
- Disasters and Mental Health: A Basic Approach for Schools.
  (These curriculums include considerations for infectious disease.)

Training curriculums developed by the Missouri Department of Mental Health
- Disasters and Mental Health: A Basic Approach for Faith Communities.
- Psychological First Aid (PFA). Includes portions of the above curriculums plus the 8 principles of PFA. 6 hour curriculum plus a 1.5 hour introduction used at conferences. (Portions of this training are based on the manual *Second Edition of Psychological First Aid Field Operations Guide.)*

At-Risk Population: Presentations developed
- Training on PFA for Federally Qualified Health Centers (FQHC) and long term assisted living (1.5 hr. presentation).
- Responding to Children with Special Considerations (1 hr presentation for Emergency responders).
- Children in Disasters: How Children Cope and How Responders Can Help (1 hr presentation).
- The Flu and You: An educational presentation for individuals with Developmental Disabilities and their support systems, by Kim Stock, DMH Division of Developmental Disabilities.

Other Tools
Schools
- Mental Health Annex as part of Emergency Response and Information Plan (ERIP) on web: https://erip.dps.mo.gov/ includes planning for pandemic.
- Checklist Appendix 9: Pandemic Influenza School Crisis Plan Checklist, a part of the ERIP mental health annex.

Health Care
- DMH developed planning document: *Hospital Preparedness Plans, Recommended Mental Health Components Annotated Outline: Mental Health and Behavioral Concerns in Emergencies*. Shared with the Missouri Hospital Association for distribution.
- DMH also developed a presentation entitled *Behavioral Health Emergency Planning for Hospitals and Regions,* presented at the DHSS Annual Public Health Conference in 2007.
- *Mental Health issues in Palliative Pandemic Planning,* a PowerPoint presentation for the Palliative Care Sub-committee of the Alternative Standards Committee.

Faith Communities

- A Checklist for Planning for the Emotional and Supportive needs of Your Faith Community during a Pandemic Influenza.
- Behavioral Health Emergency Plan Template for Healthcare Agencies, 2011.

Communication:

- *Missouri Department of Mental Health Disaster Communications Guidebook; Preparedness and Public Education: Response and Recovery Planning for Public Leaders and Spokespersons with new Pandemic Flu Section* (revised December 2007). Provides emotional well-being messages by audience and event. Named promising practice by Center for Infectious Disease Research and Policy (CIDRAP).
- *Missouri Department of Mental Health Pandemic Communications Guidebook; Preparedness and Public Education: Response and Recovery Planning for Public Leaders and Spokespersons* (December 2007). A stand-alone guidebook with pre-event messages, event and recovery communications.
- Draft: (Palliative Care) *Emotional Preparedness: Messages to Address Comfort Care in the Home* (August, 2009).

Workforce Materials:

- The Disaster Mental Health courses offered to various audiences including health and mental health include a component on "Self-Care – Peer-Care."
- *When Death and Dying Challenges our Response and Recovery: A Grief Seminar for Health Care Professionals* is a PowerPoint presentation intended to help supervisors understand the grieving process, some of the issues that workers will likely experience during a serious event that causes many deaths, how to provide support, and how to take care of themselves.
- Training for providers is developed, entitled *Community Providers, Pandemic Flu Planning* and presented to various provider groups to address continuity planning.
- Competencies for disaster mental health workers are listed on the DMH website http://dmh.mo.gov/disaster/plans.htm
- Refer state workers to the State Employee Assistance Program https://www.magellanassist.com/default.aspx.
- Educational tips brochures including *H1N1 Influenza A: Caring for Yourself and Your Co-Workers*. (This brochure is adaptable to other strains of influenza.)
- *Behavioral Health Emergency Plan Template for Healthcare Agencies, 2011.*

Brochures and Tip Sheets

Various brochures have been developed that address coping in a pandemic including:

- *Pandemic Flu, A Behavioral Health Guide.*
- *H1N1 Influenza A: A Stress Management Guide* (English and Spanish).
- *Coping with Grief and Loss (adapted).*

Other brochures: provide information about stress reactions and provide recommendations for coping:

- *Emotional First Aid for Children* (by developmental level).
- *Emotional First Aid for Adults.*
- *TIPS for First Responders* – when responding to persons with access and functional needs.

- Coping fact sheets for various audiences: children, adults, older adults, individuals with access and functional needs, first responders, etc.

Pandemic Influenza Plan – Public Communications

For more information contact: Brian Quinn, Public Information Administrator, CERT at Brian.Quinn@health.mo.gov or at 573-526-4768

PURPOSE

The Missouri Department of Health and Senior Services (DHSS) public information staff will coordinate and deliver public health and risk assessment information during an influenza pandemic. To achieve this, DHSS public information staff will work closely with the State Emergency Management Agency's (SEMA) public information staff, other state agency public information officers and with local public health agencies (LPHAs).

Overall objectives:

- To help protect the health and well being of Missourians by providing information that is accurate, timely and pertinent.
- To ensure informed, prudent public action.
- To meet the needs of the news media.
- To coordinate with other agencies involved in responding to the pandemic and providing information to the public.

EMERGENCY RESPONSIBILITIES

The Public Information Team includes:

- Chief, Office of Public Information (OPI).
- Public Information Administrator (OPI; Coordinates emergency public information planning activities in the Center for Emergency Response and Terrorism [CERT]).
- Five Public Information Coordinators (OPI).
- One video production specialist (OPI).
- Health and Senior Services Manager-B1 (OPI; Coordinates health marketing activities in the Division of Community and Public Health).
- Office support staff in OPI and CERT.

The lead DHSS public information officer (Lead PIO) will be designated by DHSS leadership and emergency response command staff based on PIO availability. The Lead PIO will work in coordination with other state and federal officials, and will:

1. Use the news media and various other communication systems (e.g., social media) to inform and instruct individuals, families, businesses and industries about health and medical factors involved in the influenza pandemic.
    a. Fact sheets, key messages and other resources, which can be used in preparing pandemic-related information, will be maintained by the CERT Public Information Administrator.
    b. The lead PIO will ensure that DHSS uses its web site to provide important health and safety information for targeted groups. Groups will include the general public, health care providers, first responders, school officials, child care providers, business leaders, nursing home staff and residents and at-risk populations. Information posted on the site will include news releases, fact sheets, advice on how to limit the spread of influenza and other pertinent health information.

c. The lead PIO will coordinate with LPHAs and PIOs from other state and federal agencies to ensure that consistent messages are delivered.
   - ❖ Public information team members will provide support to the DHSS Public Health Nurse Emergency Response Hotline.
   - ❖ The Public Health Nurse Emergency Response Hotline Coordinator is point of contact and will oversee hotline staffing and operations.

d. For further information on hotline operations, see the Emergency Response Communications Plan available at the Public Information workstation in the O:\###_DSR Work Stations_###\DSR Public Info\EMERGENCY Public Information\DHSS_Communications_Plan\06. Hotline
   All messages and other public information activities will be coordinated with the State Emergency Operations Center (SEOC) Joint Information Center (JIC), if and when it is activated, according to Incident Command System (ICS) protocol.

2. Ensure the accuracy, timeliness and appropriateness of all health and medical information before being released to the media.
3. Respond to and record requests for health or medical information from the SEOC JIC and/or other emergency response partners as appropriate.
4. Assist SEOC JIC as requested.
5. Update DHSS staff and LPHAs, including the LPHA PIOs, with messages released to the media.
6. Update the DHSS director or designee regularly and/or as requested on public information activities.
7. Maintain a list of spokespersons and subject matter experts from DHSS and other stakeholders and make this list available to the SEOC JIC or other emergency response partners as appropriate. (A list of potential spokespersons is included as Attachment A.)

STANDARD OPERATING PROCEDURES

1. Primary Public Information Responsibility:
   a. The CERT Public Information Administrator works with OPI chief or designated Lead PIO to make staffing decisions (including shifts and locations) for PIOs assigned to the DHSS EOC and to the SEOC JIC, based on staff availability.
2. Staff Assignments:
   a. According to established DHSS emergency response plans and protocols, DHSS PIOs are trained to serve on emergency response teams in the DHSS EOC (in the Public Information Section) and/or at the SEOC JIC. Each PIO has been pre-assigned to either a DHSS EOC or SEOC JIC team and will report to their assigned location as directed and based on his/her availability.
   b. The DHSS Lead PIO and/or the OPI chief may also deploy members of the public information staff to obtain, evaluate and coordinate available data and information at other locations including (but not limited to):
      - ❖ Strategic National Stockpile (SNS) distribution or dispensing sites.
      - ❖ Regional or district offices and/or the site of the bioterrorism event.
      - ❖ The need for clerical support will be evaluated and assignments made accordingly.
3. The DHSS Lead PIO will offer support to affected LPHAs. If possible, the state will provide a PIO to be on-site at the LPHA.

4. The Lead PIO will designate staff for the SEOC, as well as any other JIC that may be established during emergency response operations.
5. The Lead PIO or the public information designee will participate in all briefings and daily staff updates.
6. Public Information"Go-kits"
    a. During an influenza pandemic, it may be necessary for members of the Public Information Team to work from home. Laptops and go-kits are available to continue operations off-site.
    b. For additional details on the go-kits, refer to the DHSS Emergency Response and Terrorism Plan, Annex K.1.6.
7. Public Information Distribution (news releases, public health statements, fact sheets).
    a. As necessary and appropriate, DHSS EOC public information staff will draft news releases and other public health information using information provided by program staff, verify the information provided and obtain all necessary approvals. Approval for all outgoing public information must be obtained from the DHSS director, the director's designee, the DHSS EOC Branch Manager or the DHSS OPI chief or designee. See Attachment B for a Message Development Worksheet for Emergency Communication.
    b. Staff will ensure that messages provided to the public are consistent, coordinated and timely and shared with appropriate state and local partner agencies. If the SEOC JIC is activated, all public information will be sent to the JIC for final coordination, approval and release. The Lead PIO will determine the distribution procedures that best fit the situation. The DHSS OPI maintains the following lists:
        - Major media (50).
            - All media.
            - Regional Media. In the rare case that a news release would be sent only to a certain region of the states, a list of regional media can be extracted from the All Media list.
            - Pandemic Influenza stakeholder comprehensive media list.
    c. Completed news releases will be posted on the DHSS web site with the assistance of the technology staff in the Office of Administration, ITSD. The Web site staff is available through a call-down list 24 hours a day, seven days a week.
    d. News releases will be distributed to the Governor's Office, SEMA, LPHAs, partner agencies, appropriate DHSS staff, lawmakers and others, as applicable.

MESSAGE COORDINATION FORUM

- Mental Health Key Messages. Hard copy available at Public Information workstation in DSR or on the Missouri Department of Mental Health's website at: http://dmh.mo.gov/disaster/factsheets.htm.
- LPHAs and stakeholders will be notified that the web page is a resource for media inquiries.
- The DHSS Public Information Team will ensure that messages are kept up-to-date and will contact Pandemic Influenza stakeholders for updated messages.
- A web page will be created with messages regarding emotional and mental health aspects of an influenza pandemic. A link to that page will be made available on the DHSS main influenza web page.

1. Public Information Activities Status.
    a. According to current DHSS media relations policy, all incoming media calls will be referred to/through the OPI for Department response. If necessary, DHSS PIOs and additional support staff will be requested by the OPI chief or designee to assist with addressing media calls and requests. In the absence of the OPI chief, the designated Lead PIO will work closely with the DHSS Director's Office, State Lead PIO and/or Governor's Office to develop and approve appropriate media responses and public messages.
    b. If the SEOC JIC is activated, all media calls will be referred to the JIC according to established protocols and in coordination with the OPI. The DHSS EOC Public Information Section will assist with media relations as requested by the SEMA JIC.
    c. During an emergency, the public information staff or support staff will ensure that all e-mail messages received through the DHSS web site are answered.
2. DHSS Emergency Operations Center (EOC).
    a. The DHSS EOC Public Information Team leader will coordinate, in consultation with the OPI chief and/or DHSS Lead PIO, schedules and manage continuity of Public Information Section activities.
    b. Each EOC team member will keep record of activities during shifts worked, according to current EOC protocol and as directed by the EOC Branch Manager.
    c. All additions to the emergency web pages will be routed through the lead PIO or designee for review before submitting to the web site managers.
3. News Conferences.
    a. All media requests will be referred to the SEOC JIC and any contact with the media will be in close coordination with the JIC. If deemed necessary/appropriate and approved by the SEOC JIC and/or Governor's Office, a news conference may be scheduled and held on the DHSS campus. A DHSS conference room in the 930 Wildwood building has been designated as a news conference site for use during emergencies. A podium, backdrop and additional microphones will be available.
4. Web site.
    a. News releases, fact sheets, health alerts and other pertinent health information will be posted on the DHSS web site in a timely basis.
    b. During an emergency, DHSS staff will be reassigned duties to respond to e-mail received through the DHSS web site and to monitor residents' concerns and questions. All uploads to the DHSS web site during an emergency situation will be routed through the OPI and after hours through the DHSS EOC Public Information Section. When the EOC is activated, the Community Management workstation may be using a special LPHA emergency web page. The Public Information Section will review any DHSS information for posting to this web page and then forward to the web site staff. This will ensure consistency with the department's web page. The Community Management workstation will monitor the web page and answer questions from the LPHAs. Only information that does not require immediate response will be posted to the LPHA emergency web page.
    d. Web site templates have been developed by the ITSD staff and are ready to use during an emergency.

5. Translations.
   a. DHSS will use the Missouri statewide contract for translating messages and materials into other languages.
      - More information on the translation contract is available in the Emergency Response Communications Plan Chapter 9 or on the O Drive at O:\###_DSR Work Stations_###\DSR Public Info\EMERGENCY Public Information\DHSS_Communications_Plan\09. Translation
   b. The web site will provide links to basic information in other languages, providing the information is from a credible source, such as the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and other states' health departments. The Public Information Team will be responsible for ensuring that the messages are consistent with policies adopted by the DHSS director and the Office of the Governor.
   c. For phone calls, the DSR Duty Officer will transfer non-English speaking residents to LanguageLine. See the DSR Procedures Manual for details.
   d. The top five languages spoken in Missouri: 1. Spanish; 2. Bosnian; 3. Korean; 4. Vietnamese; and 5 Somali. Information for specific language needs in metropolitan areas should be coordinated with appropriate LPHA PIOs.
   e. General fact sheets on what to do before, during or after an emergency are available in Spanish, Bosnian, Vietnamese, Korean and Somali on the DHSS web site http://www.health.mo.gov/emergencies/readyin3/factsheets.php.
   f. The *Ready in 3 Family Safety Guide and Preparing for Pandemic Flu: A Community Guide* booklets are available in Spanish, Bosnian and Braille. The emergency threats brochure is printed in Spanish. http://www.health.mo.gov/emergencies/panflu/pangen.php. .
   g. A video aimed at motivating Missourians who use American Sign Language to prepare in advance for emergency situations is available in DVD and VHS format. http://health.mo.gov/emergencies/readyin3/videos.php.

6. Hotline Activation
   a. The DHSS EOC coordinator will be authorized to activate the expanded volunteer hotline (800-392-0272) and to call in additional volunteers. Additional phone lines are set up in the ITSD training room, 920 Wildwood, and the Wild Hawthorn Conference Room, 912 Wildwood, for immediate use.
   b. Hotline messages will be developed by OPI and then approved by the DHSS director, the director's designee, the DHSS EOC Branch Manager or the DHSS Lead PIO. The messages and scripts will be coordinated through the PIOs supporting the hotline.
   c. The messages and scripts will also be provided to the staff of the Family Care Safety Registry and the Central Registry Unit - also known as the Elderly Abuse and Neglect hotline - who will be assisting with hotline calls.
   d. The hotline staff will follow the scripts provided, maintain registry of calls and refer questions to the hotline's Duty Officer or PIO. Calls will be triaged and those inquiries that require specific medical or health-related answers will be forwarded to the DHSS Public Health Nurse Emergency Response Hotline staff.
   e. Nurse hotline staff will coordinate with the EOC to handle citizens' medical questions.

f. More details about the hotline are available in the Emergency Response Communication Plan and on the O drive at O:\CERT\DSR Public Info\EMERGENCY Public Information\DHSS Communications Plan\06. Hotline

7. Emergency Alert System (EAS).
   a. SEMA has a system in place to broadcast messages through the Emergency Alert System (EAS). DHSS will work with SEMA Communications Section, 573-526-9201.
8. Health Alerts.
   a. A health alert template can be found at O:\Health Alert TEMPLATES.
   b. A file of health alerts that have been issued can be found at I:\CPHDivision\CERT\DSR\Health Alerts Sent from CERT\, on the DHSS web site at http://health.mo.gov/emergencies/ert/alertsadvisories/archive.php or in a folder on the metal bookcase at the DSR Coordinator's workstation.

Pandemic Influenza Resources

Latest Information/Internet Resources

Title	Source	Address
Latest Information on the Pandemic Flu	Office of the Governor Missouri Department of Health and Senior Services	www.mo.gov http://www.health.mo.gov/
Novel Pandemic Flu	Centers for Disease Control and Prevention	http://www.cdc.gov/
Influenza (gripe porcina)	Centers for Disease Control and Prevention	http://www.cdc.gov/espanol/
Flu.gov	U.S. Department of Health and Human Services	http://www.pandemicflu.gov/
Pandemic Influenza Information	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/pangen.php http://www.flu.gov/individualfamily/about/pandemic/index.html
Emergency Response and Terrorism	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/ert/index.php
Pandemic	World Health Organization	http://www.who.int/csr/disease/influenza/en/index.html
Pandemic Influenza Information for Medical Professionals	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/panflu.php

Title	Source	Address
Pandemic Influenza Information for Planners	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/panflu.php
Pandemic Influenza Information for Business	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/panbusiness.php
Community Planning	U.S. Department of Health and Human Services	http://www.pandemicflu.gov/professional/community/
Health Care Planning	U.S. Department of Health and Human Services	http://www.pandemicflu.gov/professional/hospital/
School Planning	U.S. Department of Health and Human Services	http://www.pandemicflu.gov/professional/school/
State and Local Government Planning and Response Activities	U.S. Department of Health and Human Services	http://www.pandemicflu.gov/professional/states/
"Whack the Flu" Prevention Campaign	Missouri Department of Health and Senior Services	http://health.mo.gov/living/healthcondiseases/communicable/influenza/whack/index.php

Printed Materials & Tools

Title	Source	Address
Preparing for Pandemic Flu: A Community Guide, English	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/pangen.php http://www.health.mo.gov/emergencies/readyin3/mainreadyform.php#english
Preparing for Pandemic Flu: A Community Guide, Spanish	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/pangen.php http://www.health.mo.gov/emergencies/readyin3/mainreadyform.php#spanish
Preparing for Pandemic Flu: A Community Guide, Bosnian	Missouri Department of Health and Senior Services	http://health.mo.gov/emergencies/panflu/pangen.php http://www.health.mo.gov/emergencies/readyin3/mainreadyform.php#bosnian
Preparing for Pandemic Flu: A Community Guide, Braille	Missouri Department of Health and Senior Services	http://www.health.mo.gov/emergencies/readyin3/mainreadyform.php#braille

DHSS and Stakeholders Spokespersons for Pandemic Influenza

Agency	Spokesperson / Backup	Title/Area of Expertise	Phone	Fax	Email
Department of Health and Senior Services	Gena Terlizzi	Chief, Office of Public Information	573-751-6062	573-751-6041	gena.terlizza@health.mo.gov
	Brian Quinn	Public Information Administrator	573-526-4768	573-522-8636	brian.quinn@health.mo.gov
	Eddie Hedrick	Emerging Infections Coordinator	573-882-9881	573-882-6713	eddie.hedrick@health.mo.gov
	Aaron Winslow	Emergency Response Coordinator	417-895-6920	417-895-6975	aaron.winslow@health.mo.gov
Department of Public Safety/State Emergency Management Agency	Mike O'Connell	Director of Communications	573-751-4819		Mike.oconnell@dps.mo.gov
Dept. of Agriculture	Misti Preston	Communications Director	573-751-8596	573-751-5002	Misti.preston@mda.mo.gov
Dept. of Conservation	Dave Graber	Avian Influenza Coordinator	573-882-9909 x 3243	573-751-2260	david.graber@mdc.mo.gov
	Mike Roell	Resource Science Supervisor	573-882-9909 x 3262	573-882-4517	Mike.roell@mdc.mo.gov
Missouri Hospital Association	Dave Dillon	Vice President of Media Relations	573-893-3700 x1311	573-893-2809	ddillon@mail.mhanet.com
	Mary Becker	Senior Vice President, Media Relations	573-893-3700 x1309	573-893-2809	mbecker@mail.mhanet.com
American Red Cross		State Relations Representative	573-635-1132 or	573-635-8621	@redvross-capitalarea.org
	Larry Ketelhut	Emergency	573-635-	573-635-	llkarc@redcross-

Agency	Spokesperson / Backup	Title/Area of Expertise	Phone	Fax	Email
		Services Director	1132	8621	capitalarea.org
Dept. of Elementary and Secondary Education	Michele Clark	Communications Coordinator	573-751-3469	573-751-8613	michele.clark@dese.mo.gov
Missouri Chamber of Commerce	Karen Buschmann	VP of Communications	573-634-3511	573-634-8855	kbuschmann@mochamber.com
	Dan Mehan	President and CEO	573-634-3511	573-634-8855	dmehan@mochamber.com
Local Public Health Agencies	Contact your Local Public Health Agency				Directory of LPHAs can be found at http://health.mo.gov/living/lpha/lphas.php

Message Development Worksheet for Emergency Communication

First, consider the following:

Audience:	Purpose of Message:	Method of delivery:
❑ Relationship to event ❑ Demographics (age, language, education, culture) ❑ Level of outrage (based on risk principles)	❑ Give facts/update ❑ Rally to action ❑ Clarify event status ❑ Address rumors ❑ Satisfy media requests	❑ Print media release ❑ Web release ❑ Through spokesperson (TV or in-person appearance) ❑ Radio ❑ Other (e.g., recorded phone message)

Six Basic Emergency Message Components:

Expression of empathy:

_____

1. Clarifying Facts/Call for Action:
   Who _____
   What _____
   Where _____
   When _____
   Why _____
   How _____
   Add information on what residents should do or not do at this time _____
   _____
2. What we don't know: _____
3. Process to get answers: _____
4. Statement of commitment: _____
6. Referrals: _____

For more information: _____

Next scheduled update: _____

Finally, check your message for the following:

• Positive action steps • Honest/open tone • Applied risk communication principles • Test for clarity • Use simple words, short sentences	• Avoid jargon • Avoid judgmental phrases • Avoid humor • Avoid extreme speculation

Source: CDC–Crisis and Emergency Risk Communication, CDCynergy